

# Near-Term Transportation Plan

For Miami-Dade County

2012-2015



Prepared by the Miami-Dade Metropolitan Planning Organization.

**OCTOBER 2010**



MIAMI-DADE MPO

Near Term  
Transportation Plan For  
Miami-Dade County  
2012-2015

# Near Term Transportation Plan For Miami-Dade County

---

# Near Term Transportation Plan For Miami-Dade County

---

## TABLE OF CONTENTS

INTRODUCTION .....	1
RECENT FINANCIAL IMPLICATIONS .....	1
PURPOSE OF THE PLAN .....	2
EXISTING MIAMI-DADE ROADWAY NETWORK .....	2
PLANNED ROADWAY IMPROVEMENTS .....	3
TRANSIT PLANS .....	7
AIRPORTLINK .....	7
PROPOSED LOCAL BUS SERVICE ASSOCIATED WITH AIRPORTLINK .....	9
NEW MARLIN’S BALLPARK TRANSIT SERVICE .....	9
PTP CORRIDORS .....	10
INCREMENTAL IMPLEMENTATION OF BRT .....	12
NORTH CORRIDOR .....	14
EXISTING NORTH CORRIDOR TRANSIT SERVICE .....	14
PROPOSED NORTH CORRIDOR TRANSIT SERVICE .....	14
NORTH CORRIDOR IMPLEMENTATION .....	17
EAST-WEST CORRIDOR .....	18
EXISTING EAST-WEST BUS SERVICE .....	19
PROPOSED EAST-WEST CORRIDOR IMPROVEMENTS .....	21
SR 836 EXPRESS BUS IMPLEMENTATION .....	23
PROPOSED TRANSIT IMPROVEMENTS ON WEST FLAGLER STREET .....	24
FLAGLER ROUTE IMPLEMENTATION .....	24
NORTHEAST CORRIDOR TRANSIT IMPROVEMENTS .....	26
OTHER PTP CORRIDORS .....	27
IMPLEMENTATON PLAN .....	29
OUTLOOK BEYOND FIVE YEARS .....	38



# Near Term Transportation Plan For Miami-Dade County

---

## INTRODUCTION

Miami-Dade County is part of a heavily populated multi-county metropolitan area. The County encompasses approximately 2,500 square miles of land, and is the most populous county in the State of Florida. As of 2007 Miami-Dade County was the eighth most populous county in the United States. According to the 2009 Urban Mobility Report, Miami-Dade is the fifth most congested metropolitan area in the nation in terms of travel time. In 2007 the financial cost of congestion experienced by County residents amounted to approximately \$3.0 billion, and resulted in excess fuel consumption of 102 million gallons. As the population of Miami-Dade County continues to grow, so does the demand on the existing transportation system, which requires innovative investments and collaborative strategies to curtail the rising cost of congestion.

## RECENT FINANCIAL IMPLICATIONS

Since 2004 when the 2030 Long Range Transportation Plan was adopted financial conditions have changed considerably in South Florida. Between 2004 and 2008 construction costs were up 45% compared to an increase in the Consumer Price Index of only 15% over the same period (however the economic downturn has changed that trend). With the economic downturn construction prices have come back down. There have also been projected declines in future revenues of up to 30% and general uncertainty regarding the future of transportation revenues, given the current economic recession.

At the federal level, the U.S. Congress has yet to put forth a new transportation funding bill to replace the previous funding bill that expired last year. The previous bill specified funding levels through 2009. Transportation agencies are now operating with continuing resolutions until a new transportation funding bill can be passed. During the two previous years, the highway trust fund, which funds the national highway and transit programs, ran out of funds and had to be supplemented from the federal budget. Trying to find another method of funding the highway trust fund in the face of declining revenues from the gas tax is part of the reason that new legislation has not been passed.

Revenues at the federal level were down about 3% last year. These funds are redistributed back to the States. The Florida Department of Transportation (FDOT) prepares long-range revenue projections based upon anticipated funding levels. Due to the economic downturn their revenue forecasts are down sharply.

At the County level the majority of transportation funds come from general revenue. Revenues from property taxes are down due to a sharp decline in construction that would add to the tax rolls. The latter are in their third straight year of decline. Property values in Miami-Dade County declined 13.4% this year alone. The combination of these factors has led to a funding crisis in the transportation community. New innovative methods are being sought to improve transportation facilities without the large outlays of capital that were available in the past.

# Near Term Transportation Plan For Miami-Dade County

---

## PURPOSE OF THE PLAN

The Metropolitan Planning Organization (MPO) for Miami-Dade County recently adopted an update to the County's Long Range Transportation Plan (LRTP) to the year 2035. The 2035 LRTP update represents a snapshot of the long range planning opportunities that result from the revenue projections based on the economic downturn that has occurred during the past several years. Miami-Dade County transportation funding projections have declined more than 20% relative to the 2030 LRTP update, adopted in September 2004. This decline has had a significant impact on the County's effort to provide transportation services that respond to the needs of residents and visitors.

The federal government, as a part of the overall effort to help respond to the revenue short fall, instituted a national strategy to reduce congestion on America's transportation network, known as the Congestion Initiative. This initiative is a four-prong strategy to manage the nation's transportation system including tolling, transit, telecommuting and technology, known collectively as the 4T's. The dominant trend in these strategies includes operational improvements that are less costly, and in some cases, more effective than traditional expansion. In 2007 the USDOT selected the Miami Urbanized Area to participate in a demonstration project utilizing the 4T's. Southeast Florida received \$62.9 million toward the conversion of high-occupancy vehicle (HOV) lanes into high-occupancy tolling (HOT) lanes along a 21-mile stretch of I-95, including additional express transit services in both Broward and Miami-Dade counties. The 95 Express can be mimicked in other freeway corridors as managed lanes are developed. The Miami-Dade Express way Authority (MDX) has identified in the Long Range Transportation Plan a number of expressways that would be enhanced with managed lanes that will accommodate express transit. As a result MDX is considering the development of managed lanes on SR 836 (the Dolphin Expressway) after the completion of the reconstruction of the SR 836/826 interchange, but it is important to note that MDX does not have plans in the current 5-year work program to implement managed lanes on SR 836.

The Near-Term Transportation Plan was developed by the MPO as a second phase of an effort to improve existing transportation services within Miami-Dade County. The plan recommends implementable transportation improvements along major corridors. The projects resulting from this effort are to be implemented in a two- to-five-year time frame. The plan was developed in close coordination with Miami-Dade Transit (MDT), Miami-Dade Expressway Authority (MDX), the Florida Department of Transportation (FDOT) and other area transportation agencies and is consistent with the 2010 Transit Development Plan (TDP).

## EXISTING MIAMI-DADE ROADWAY NETWORK

The core highway network in Miami-Dade County consists of 420 centerline miles of major arterial roadways and 256 centerline miles of freeways. These facilities serve as the backbone of the County's roadway network. These facilities show a tendency toward directionality, or traffic flow that is heavily skewed in one direction at a particular time of the day. Recently completed projects have improved mobility throughout the County.

## Near Term Transportation Plan For Miami-Dade County

---

- The reconstruction of the I-95/SR 112 interchange in conjunction with the implementation of the I-95 managed lanes has improved travel times along this critical north-south corridor.
- Completion of Palmetto Expressway (SR 826) widening .
- Implementation of electronic tolling on MDX and Florida Turnpike facilities have improved travel times by decreasing wait time at the toll plazas.

Currently, there are several major roadway projects under construction in the County.

- The reconstruction of the SR 836/826 interchange sits in the heart of the county and a large percentage of all highway trips must pass through this location. The project is estimated to cost approximately \$560 million and should be completed in 2015.
- The NW 25<sup>th</sup> Street Viaduct provides a double decked roadway between the Miami International Airport air cargo area and the warehouse district in the Doral. When both phases of this project are complete some of the severe congestion in the Airport West area will be eliminated.
- The Port Tunnel between the Port of Miami and the MacArthur Causeway will remove much of the truck traffic from downtown streets, and will provide direct freeway access to and from the Port of Miami, improving its competitive advantage among other ports. The project is expected to be completed by spring 2014 at a cost of \$610 million.

### PLANNED ROADWAY IMPROVEMENTS

The three large projects detailed above impacted the ability to fund additional projects between the present and 2015. The MPO produces the Transportation Improvement Plan (TIP) every year, which identifies all of the projects to be funded during the next five years. Many of the new programmed transportation projects fall under the category of the transportation system management and operations (TSM&O) and are designed to improve the performance of facilities by increasing their efficiency. The projects incorporate demand management and intelligent transportation systems by using the 4-T's, tolling, transit, telecommuting, and technology. Chief among this type of improvements that will be implemented in this time frame will be the extension of the managed lanes on I-95 from the Golden Glades Interchange to Central Broward County. Other 4-T projects include the conversion to open road tolling of SR 836 (Dolphin Expressway), the Homestead Extension of Florida's Turnpike (HEFT), SR 112 (Airport Expressway), SR 874 (Don Shula Expressway), SR 924 (Gratigny Expressway), and SR 878 (Snapper Creek Expressway).

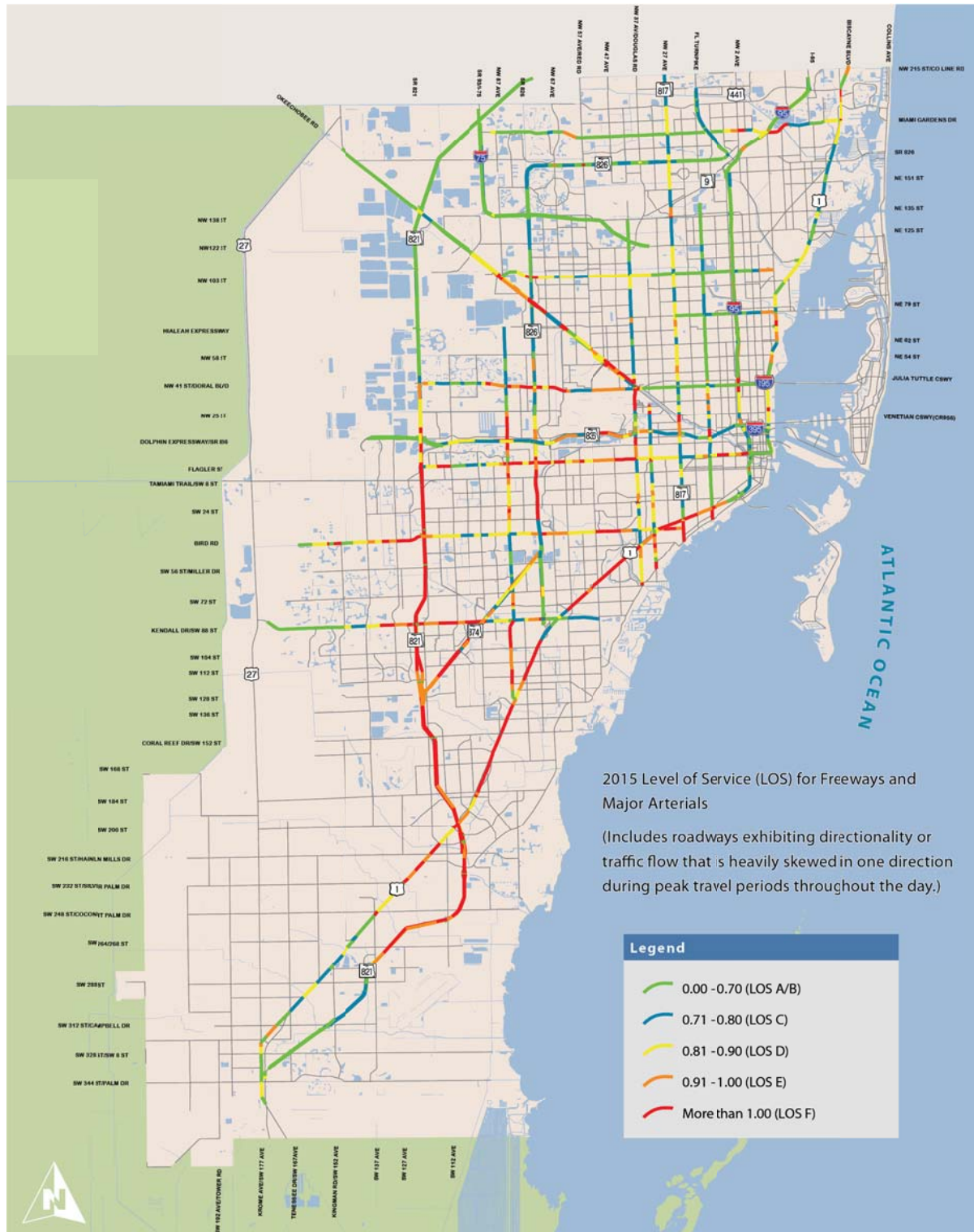
There are also a number of construction projects that are programmed for County roadways.

- Phase II of the 25th Street Viaduct is also planned for construction during the time frame of this plan.
- Widening and interchange improvements to a portion of SR 826 (Palmetto Expressway) between NW 47<sup>th</sup> and 87<sup>th</sup> Avenue.
- Portions of the grid system including NW 74<sup>th</sup> Street to the HEFT, NW 87<sup>th</sup> Avenue extended to tie into NW 74<sup>th</sup> Street, NW 97<sup>th</sup> Avenue between NW 138<sup>th</sup> and 154<sup>th</sup> Streets, and multiple segments of SW 157<sup>th</sup> Avenue.
- Numerous primary arterial widenings throughout the County but particularly in South Dade.

With the completion of these planned roadway projects by 2015 congestion will still be prevalent across Miami-Dade County as shown in Figure 1.



# Near Term Transportation Plan For Miami-Dade County



**Figure 1: 2015 LEVEL OF SERVICE\* ON ROADWAYS**

\*Level of service is an indication of the percent of roadway capacity. If a roadway is at 1.00 then it is at capacity, if it is a .91 then it is at 90% of its maximum capacity.

# Near Term Transportation Plan For Miami-Dade County

## MIAMI-DADE TRANSIT SERVICES

MDT operates the 14<sup>th</sup> largest transit system in the United States and is the largest transit system in Florida. MDT operates four transit modes: Metrobus, Metrorail (heavy rail), Metromover and demand-response service (STS). Together these modes comprise an integrated system that carries more than 326,000 daily passenger boardings. Table 1 summarizes MDT service characteristics by transit mode.

**Table 1**  
**MDT Service Characteristics by Transit Mode, 2009\***

<b>System Characteristics</b>	<b>Metrobus</b>	<b>Metrorail</b>	<b>Metromover</b>	<b>STS</b>
Operating Hours	24 Hours	5:00 am to midnight	5:00 am to midnight	24 Hours
Number of Routes	93	1	3	Demand Response
Number of Stations/Stops	8,943	22	20	
Peak Headway	7 ½ - 60 minutes	7 ½ minutes	1 ½ to 3 minutes	
Midday Headways	12-60 minutes	15 minutes	1 ½ to 3 minutes	
Weekend Headways	12-60 minutes	30 minutes	1 ½ to 3 minutes	
Route miles	2,615 round trip miles	22.4 miles	4.4 miles	
Peak Vehicle Requirement	680	84	21	276
Total Fleet Size	816 (714 full sized and 75 minibuses)	136	29	355
Annual Revenue Miles	29,189,472	6,743,641	1,126,255	13,084,419
Annual Boardings	75,608,000	18,244,476	8,100,144	1,491,924
Park-and-ride Spaces	2,671	9,658	0	N/A
Annual Operating Expenses	\$334,727,320	\$78,399,299	\$23,265,217	\$44,522,040
Annual Operating Revenue	\$78,370,758	\$15,646,396	\$0	\$6,958,585
Annual Revenue (Other)	\$8,052,752	\$0	\$0	
Base Fare	\$2.00	\$2.00	\$0	\$3.00

\*2009 Miami Dade Transit, Transit Development Plan 2011-2020.

In 2002 when the People's Transportation Plan (PTP) was passed, Miami-Dade Transit operated less than 27 million revenue miles of transit service annually. By the end of 2005, 24 new bus routes had been added and an additional 11 million annual revenues miles were being operated on 105 bus routes. At that time, MDT was forecasting that by 2008 it would be operating a total of 43 million annual revenue miles. The plan was to expand the bus fleet to 1,191 vehicles. The expansion of the miles operated did lead to an increase in revenues and boardings. These increases did not keep up with the increased operating costs. Table 2 shows the changes over time of these factors.

## Near Term Transportation Plan For Miami-Dade County

**Table 2**  
**MDT ANNUAL BUS COMPARISONS SINCE THE PTP**

<b>Line up Date</b>	<b>Annual Revenue Miles</b>	<b>Annual Revenue Hours</b>	<b>Annual Passengers</b>	<b>Peak Vehicle Requirements</b>
Pre- PTP	26,374,922	2,065,033	64,546,632	560
Nov 2002	27,374,225	2,147,137		569
Mar 2003	29,051,040	2,330,437		629
Dec 2003	31,786,876	2,506,962		652
Apr 2004	32,123,133	2,532,243	72,050,370	688
Jul 2004	32,167,940	2,508,552		688
Nov 2004	34,989,867	2,698,491		756
Jul 2005	35,523,844	2,731,112	76,752,965	765
Dec 2005	38,011,593	2,969,881		821
Jul 2006	37,042,094	2,963,443	82,364,607	823
Dec 2006	36,604,882	2,956,001		854
May 2007	35,492,502	2,851,526	83,458,376	825
Oct 2007	34,071,228	2,759,123		799
Dec 2007	34,002,418	2,751,218		789
Jun 2008	32,372,354	2,634,849	84,776,337	741
Nov 2008	32,402,594	2,655,424		744
Jun 2009	30,344,179	2,509,304	75,608,565	720
Dec 2009	29,189,472	2,388,379		680
Jun 2010	29,138,348	2,395,093		694

However, by 2006, it became apparent that the revenues from the ½ cent sales surtax could not support the anticipated expansion of bus operations, the capital programs for the North and East-West Corridors, and the MIC-Earlington Heights Extension (Airport Link). Since that date, bus service has been cut back and cost savings have been realized as is shown in Table 3.

**Table 3**  
**MDT ANNUAL BUS SERVICE REDUCTIONS**

<b>Line up Date</b>	<b>Reduction in Revenue Miles</b>	<b>Cost Savings (millions)</b>
Jul 2006	969,500	\$5.5
Dec 2006	437,200	\$2.2
May 2007	1,112,400	\$7.8
Oct 2007	1,421,300	\$8.8
Jun 2008	1,699,000	\$13.7
Jun 2009	2,028,200	\$18.0
Dec 2009	1,154,700	\$15.0

# Near Term Transportation Plan For Miami-Dade County

---

As of the June 2010 bus line-up, the Annual Revenue Miles and Revenue Hours are at the 2003 levels.

Although the Peak Vehicle Requirement did increase slightly, MDT experienced almost a 20% overall increase in ridership. This increase in ridership can be attributed to improved frequencies along with providing more reliable and efficient bus service.

## TRANSIT PLANS

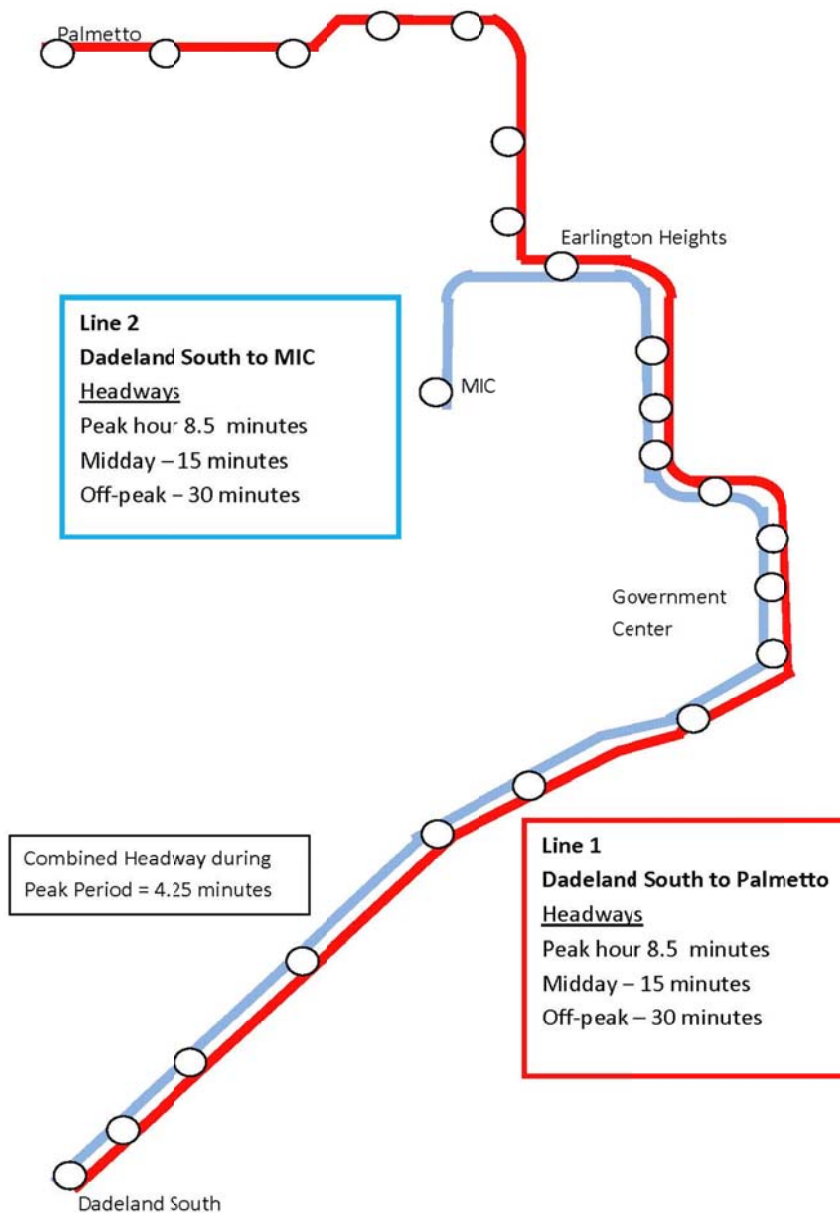
### AIRPORTLINK

The Miami Intermodal Center (MIC) will be connected to the Miami International Airport terminal via the MIA Mover, which will operate at 90-second headways. The MIC station for the MIA Mover will be located between the rental car facility and the central transportation terminal, which will house Metrorail, Metrobus, Tri-Rail, Amtrak, Greyhound, and future high speed rail.

The schedule for the full operation of the MIC and its accompanying transit facilities drives a large part of the planned transit program. The consolidated rental car facility opened in July 2010. The MIA Mover will be completed September 2011, at which time the rental car customers and Tri-Rail customers will begin using the MIA Mover from the Airport terminals to the MIC. In April 2012, the Metrorail extension to the Airport (Airport Link) will be completed and transit patrons will then be able to access the airport via rail. (The Metrorail Extension from the existing Earlington Heights Station to the MIC is being paid for entirely with local and State money. )

To operate the Airport Link service to the MIC, an operating plan had to be developed. A variety of options were examined before a single operating plan was selected. Miami-Dade Transit will operate the new system as two lines as shown in Figure 2. One line will operate between Dadeland South and the Palmetto Station and the second line would operate between Dadeland South and the MIC. Both lines would operate with four car trains on 8.5 minute headways during the peak periods, 15 minute headways during the mid-day and 30 minute headways during off-peak periods. With both lines operating between Dadeland South and the Earlington Heights Stations there will a combined headway of 4.25 minutes during the peak. The segment of the line extending to the Palmetto Station will be provided with slightly longer headways than are currently operated plus the vehicle capacity will be reduced (four-car trains instead of six-car trains). The Airport Link will also operate on the 8.5 minute peak period headways.

## Near Term Transportation Plan For Miami-Dade County



**Figure 2: Metrorail Operating Service Plan**



## Near Term Transportation Plan For Miami-Dade County

---

MDT is in the process of purchasing 136 new rail cars that are to be delivered between March 2014 and April 2016. Thus when the new extension to the MIC opens (in April 2012) the service will be operated with the existing fleet on 7.5 minute peak hour headways. This operating scenario will require 88 vehicles to be used during the peak period, up from the current 84 vehicles. The 94 peak vehicle requirement out of the ultimate fleet of 136 vehicles will give MDT a spare ratio of 44%.

To determine the cost of the proposed Metrorail operating plan, the MDT operating and maintenance (O&M) cost model was utilized. The model was developed for MDT in 2009 under the guidance of the Federal Transit Administration (FTA). The chief drivers of the model are revenue train hours and revenue vehicle miles. The O&M cost model estimated that the 2009 annual O&M costs for Metrorail was \$70.9 million. The proposed operating plan increases the number of revenue train hours by 64% and the revenue vehicle miles increase by 44%. The new annual operating cost for Metrorail in 2009 dollars is estimated to be \$86 million by 2012 – up 21% from current operating costs.

The travel forecast model estimates that with the implementation of the new operating scenario that Metrorail ridership will increase by 13.5% from its current 66,700 daily riders to 75,000. The current peak hour peak direction load point is 3,150 and is projected to increase to 3,575. Currently the heavy rail system has a load capacity of 5,150 passengers (3552 seated capacity) per hour per direction (8 trains peak hour/ direction X 6 cars per train X 107 passengers per car). Given the new operating scenario the crush capacity between Dadeland South and Earlington Heights would be increased to 5,992 passengers (4,144 seated capacity) per hour per direction – a 16% increase in capacity. The new portion of the route between the MIC and Earlington Heights will have a capacity of 2,996 passengers per hour (2,072 seated capacity) and the crush capacity on the leg between the Palmetto Station and Earlington Heights will be reduced from 5,150 to 2,996 passengers per hour. This reduced capacity will easily be able to handle the demand because only 22% of the peak hour passengers ride between the Palmetto and the Earlington Heights Stations. The 2015 model estimated that the leg between the MIC and the Earlington Heights Station would carry 700 passengers during the peak hour, which will easily be satisfied by the capacity provided.

### **PROPOSED LOCAL BUS SERVICE ASSOCIATED WITH AIRPORTLINK**

With the opening of the MIC, MDT local bus routes will be restructured to serve the MIC. This will impact Routes 37, 42, 57, 150, 238 and the J. Route 133, which is a shuttle between the Tri-Rail Airport Station and the airport terminal will be discontinued as soon as the MIA Mover begins operations. Due to route duplication between the Earlington Heights Metrorail Station and the Airport, a portion of the Route 238/East-West Shuttle, will also be eliminated.

New services to the MIC will include the extensions from Route 7 to serve the new stadium, the North Corridor of the revised Route 97 (27 MAX) and a new East-West Express all of which are discussed in the subsequent section.

### **NEW MARLIN'S BALLPARK TRANSIT SERVICE**

The new Marlin's Ballpark is planned for completion in 2012. The ballpark will have a seating capacity of 37,000. The current season hosts 81 home games plus the venue would be expected to host regular

## Near Term Transportation Plan For Miami-Dade County

---

entertaining events. Therefore, the ballpark would be expected to be in use approximately 1/3 of the time. The ballpark has roadway access from NW 12<sup>th</sup> and 17<sup>th</sup> Avenues, as well as NW 7<sup>th</sup> and West Flagler Streets. The site is served by nine different routes: the 6, 7, 11, 12, 17, 22, 51, and 207/208. These routes provide connections to Metrorail at the Vizcaya, Civic Center, Historic Overtown/Lyric Theater, Northside, Allapattah, Earlington Heights, Coconut Grove, and Government Center Stations. There is no walk access to a Metrorail station, but the Culmer and the Civic Center Stations are located approximately 1 mile north of the ballpark.

Given the infrequent use of the ballpark, as discussed previously, and the cost of building a spur rail line to the ballpark, it will be most feasible to provide bus service to serve the ballpark. That service would be staged from both the MIC and the Culmer Station. FTA regulations "Charter Service Final Rule" 73 FR 2326 (Effective date 4/30/08) and 49CFR604 prohibits the provision of special bus service to an event unless it is an existing route.

Route 7 currently provides 15 minute peak period service in front of the ballpark. Every other bus currently does a short turn at Metropolitan Hospital at NW 60<sup>th</sup> Avenue. It is recommended that the short turn be rerouted to the MIC, so that two buses per hour continue west on NW 7<sup>th</sup> Street and two turn north on LeJeune and serve the MIC. The travel forecast model estimates that in the year 2015 the daily ridership would have increased from 5,479 to 7,670. The additional annual operating cost is estimated at \$800,000. The additional distance on the short turn to serve the MIC would require one additional bus at a capital cost of \$600,000. Job Access/Reverse Commute (JARC) funding is available for this route from the FY 08-09 grant. JARC funding would pay the entire additional operating cost for FY 2012 the year the ballpark opens.

The Office of Sustainability and Miami Dade Transit are working on additional service options to the ballpark. This effort is expected to be completed in December 2010.

### PTP CORRIDORS

The decline in transportation revenues and the success of the 4T program, both here and elsewhere in the United States, has led Miami-Dade County to re-examine its transit expansion program. The foundation for the County's transit program was established in 1994 with the completion of the *Dade County Transit Corridors Transitional Analysis*, which identified priority transit corridors and projected ridership, and costs for each corridor. Based on the results of that systemwide transit study the County embarked on the detailed studies of the East-West Corridor and the North Corridor. In 2002 the voters of Miami-Dade County passed a half cent sales surtax that was dedicated to transportation funding to implement what was called the People's Transportation Plan (PTP). The basis of the PTP was a map (see Figure 3) that defined nine premium transit corridors including: the North Corridor, MIC-Earlington Heights Connector (Airport Link), Northeast Corridor, BayLink, East-West Corridor, Palmetto Corridor, Douglas Road Connector, Kendall Corridor, and South Dade Corridor.

## Near Term Transportation Plan For Miami-Dade County

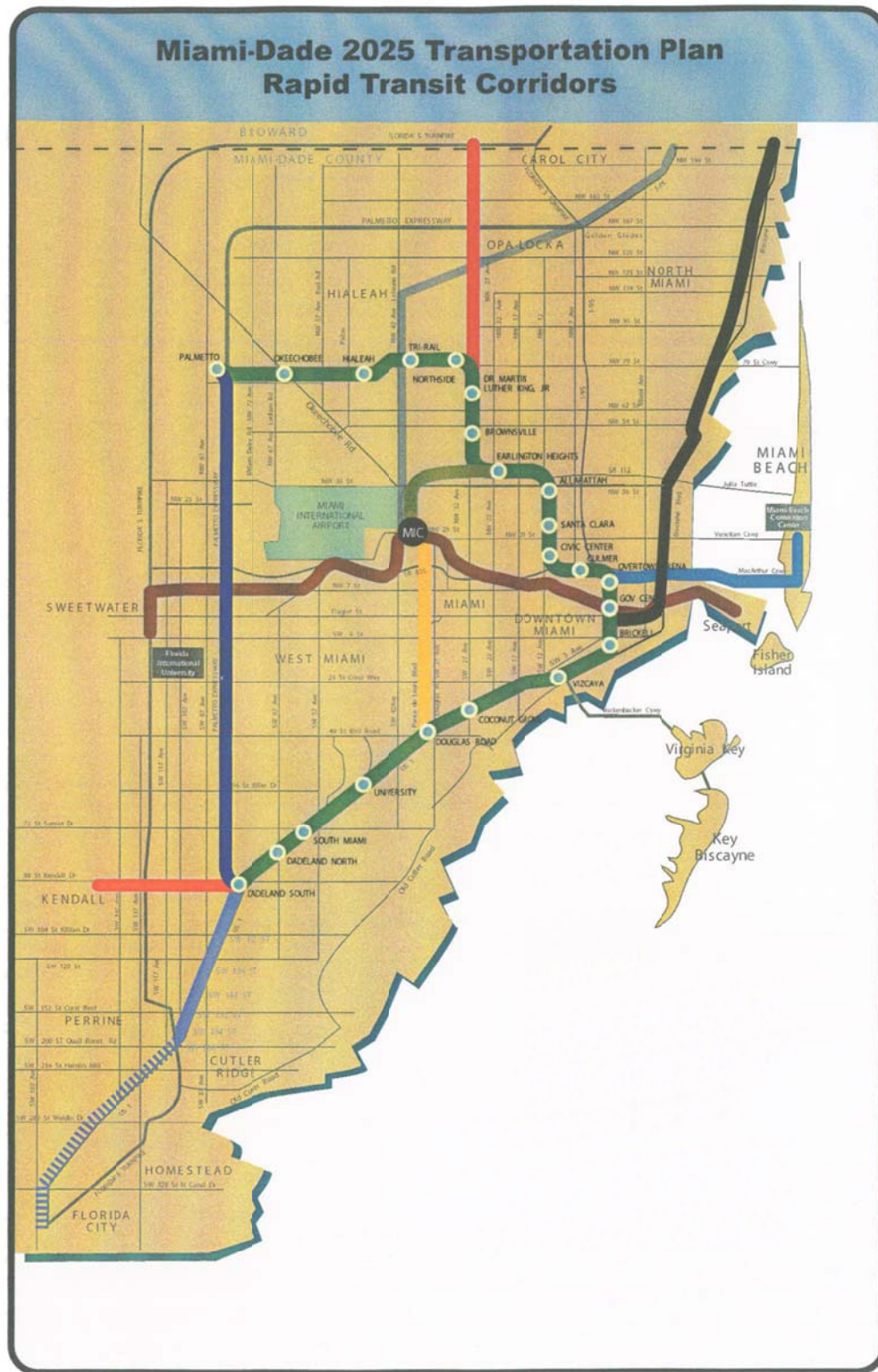


FIGURE 3: PEOPLES' TRANSPORTATION PLAN CORRIDORS

# Near Term Transportation Plan For Miami-Dade County

---

This Near-Term Transportation Plan for Miami-Dade County endeavors to begin to program transit improvements within the priority transit corridors defined in the PTP. The Near-Term Transportation Plan focuses on the evolution of transit services within the PTP corridors during the next two-to-five year time frame. The purpose is to improve transit services and to develop transit ridership within the PTP corridors so that when a rail transit system is deemed feasible it can be implemented successfully.

## BUS RAPID TRANSIT

Bus Rapid Transit (BRT) is a mode of public transportation that uses buses to provide faster, more efficient service than an ordinary bus line. This is achieved by making improvements to the existing infrastructure, vehicles and scheduling. The goal is to provide the quality of rail service while maintaining the cost savings and flexibility of a bus. BRT has been implemented in around the United States as well as across South America, Europe and Australia. Successful programs have been implemented in:

Los Angeles, CA.	Chicago, IL
New York City, NY	Honolulu, HI
Boston, MA	Pittsburg, PA
Eugene, OR	Las Vegas, NV
Cleveland, OH	Oakland, CA
Kansas City, MO	Dallas, TX

The BRT systems that are in place vary in the way that the running ways, stations, vehicles, fare collection, ITS, and operations have been designed and implemented. However, they all experience reduced travel times, improved reliability and improved ease of use for the user.

## INCREMENTAL IMPLEMENTATION OF BRT

Given the cost of implementing major capital transit investments, including BRT, it is necessary to develop a formula for implementing such projects as funding permits. The formula is a four step incremental process as follows:

### Step 1-Initial Implementation

- Streamline transit operations
  - Restructure existing key bus routes to make them more linear and direct and provide one seat rides to major destinations and hubs
  - Restructure existing nearby bus routes to new stations to act as initial feeder bus service
  - Improve Headways (provide more frequent bus service)
  - Consolidate stops to reduce the total number and increase travel speeds
  - Provide Transit Signal Priority/Pre-Emption
- Lease or purchase properties for park-and-ride lots at potential station areas
- Improve passenger amenities
  - Provide upgraded bus stops with shelters and next-bus technology at key locations and transfer points

# Near Term Transportation Plan For Miami-Dade County

---

- Perform branding of the new buses and shelters
- Add Wi-Fi technology to buses to improve customer experience
- Provide “Where’s the Bus?” information on handheld devices and computers.
- Perform marketing activities to promote the new service

## Step 2-Enhance Services

- Improve transit operations
  - Continue to improve headways (provide more frequent bus service) on new enhanced bus routes
  - Provide new express routes
  - Provide new feeder bus routes to stations
  - Provide newer higher capacity (articulated) buses with green technology (hybrid/electric)
- Acquire properties for park-and-ride lots
  - Build park-and-ride/kiss-and-ride facilities
  - Add “bike parking and storage” at the stations
- Develop transit supportive land use plans (TOD) for areas around stations

## Step 3-Enhance Roadside Infrastructure

- Provide simple roadway cross-section modifications such as passenger waiting areas, bus bays, and lay over facilities, shoulder widening/fortification to allow for buses on shoulders
  - Provide pre-boarding payment facilities at the enhanced bus stations as additional space is made available
  - Provide level boarding platforms at stations
- Provide queue jumpers at major signalized intersections

## Step 4-Enhance Roadway Infrastructure

- Provide special use lanes such as arterial HOV lanes or dedicated bus only lanes
- Utilize HOV/HOT lanes as they are developed by MDX and FDOT

At any time during the implementation of BRT in a corridor Miami-Dade County may seek to go after FTA Small Starts or Very Small Starts grant money. FTA guidelines to receive this grant money requires that a corridor meet the following requirements:

- Substantial transit stations,
- Traffic signal priority or pre-emption to the extent that there are traffic signals in the corridor,
- Low floor or level boarding buses
- Branding of the service
- 10 minute peak/15 minute off peak service operated for at least 14 hours per weekday.

The concept behind most of the bus enhancements described in the corridors is to move toward meeting these minimum FTA requirements. The FTA guidelines state that “These elements have been identified because experience shows that they represent key features which contribute to transportation and economic development benefits. Further research has shown that the service



## Near Term Transportation Plan For Miami-Dade County

---

frequencies represent the maximum wait times for passengers are likely to arrive randomly rather than having to consult a schedule.”

### **NORTH CORRIDOR**

The North Corridor has long been a priority transit corridor in Miami-Dade County. It extends south from the Broward County line along NW 27<sup>th</sup> Avenue to the Dr. Martin Luther King, Jr. Station at NW 62<sup>nd</sup> Street. The Locally Preferred Alternative (LPA) for the Corridor was estimated to be a \$1.1 billion extension of the elevated heavy rail line north along NW 27<sup>th</sup> Avenue from the Dr. Martin Luther King, Jr. Metrorail Station to the Broward County line. Funding for the project relied on federal participation. The Federal Transit Administration (FTA), after 10-years of participating in the New Starts process, has not yet entered into negotiations for a Full Funding Grant Agreement for the North Corridor. The North Corridor, MIC-Earlington Heights Connector (AirportLink), and the western portion of the East-West Corridor were merged to form one project, the Orange Line comprised of three phases. The Airport Link is the Orange Line Phase 1, the North Corridor is the Orange Line Phase 2 and the East-West Corridor is the Orange Line Phase 3. Although the County has decided to officially withdraw from the FTA New Starts Process, the County continues to work on the NW 27<sup>th</sup> Avenue Corridor. It has chosen to improve service incrementally until such time that the construction of heavy rail in the corridor is deemed feasible.

### **EXISTING NORTH CORRIDOR TRANSIT SERVICE**

Two routes serve NW 27<sup>th</sup> Avenue. Route 27 offers local bus service between Coconut Grove and NW 211<sup>th</sup> Street. The route is operated 24 hours per day and takes approximately 105 minutes to complete a one way trip. The other route is the Route 97 (27<sup>th</sup> Avenue MAX), which operates limited-stop bus service along NW 27<sup>th</sup> Avenue between NW 211<sup>th</sup> Street and Dr. Martin Luther King, Jr. Metrorail Station. Route 97 provides service between the hours of 5:30 am and 8:00 pm and takes approximately 43 minutes to complete a one-way trip. The two routes on NW 27<sup>th</sup> Avenue are both direct routes , which provide for ease of understanding for the passenger. Route 27 has about 6 bus stops per mile, which provides great access for the patron but very long running times, making the Route 27 good for short local trips. Route 97 averages 2 stops per mile, which provides more limited accessibility, but greatly improved running times. The routes combined provide an average headway during the peak periods of one bus every 8.5 minutes and one bus every 11 minutes during the midday.

At 9,500 average daily riders Route 27 is the fourth heaviest utilized route in the system. Route 97 performs well within the MAX and the KAT services, as well, at 1,300 boardings. Ridership in this corridor is surpassed by Miami Beach, Flagler, Biscayne, the South Dade Busway and NW 7<sup>th</sup> Avenue.

Currently, the combined annual direct operating costs for the two routes in the corridor total \$8,331,600, with Route 27 costing \$6,738,000 annually and Route 97 costing \$1,593,600.

### **PROPOSED NORTH CORRIDOR TRANSIT SERVICE**

In June 2012, the current Route 97 would be modified. First, the headways would be improved from 20 minutes to 12 minutes during the peak period; midday headways would be improved from 40 minutes

## Near Term Transportation Plan For Miami-Dade County

---

to 30 minutes. Hours of operation would not change. After the opening of the MIA Mover to the MIC and completion of the bus plaza, the routing would be extended south to the MIC as shown on Figure 4. Once the new park-and-ride lot is acquired and developed, the new alignment at the north end of the route for both Routes 27 and 97 would eliminate the two mile turn around. Both bus routes would have a layover in the new park-and-ride lot located at NW 215<sup>th</sup> Street. Once both the park-and-ride lot and the MIC are operational the new Route 97 will operate from the park-and-ride lot along NW 27<sup>th</sup> Avenue to the SR 112/Airport Expressway where it would run express to the MIC. The new service will provide combined headways of one bus every six minutes during the peak periods and every 8.5 minutes during the midday.



The rerouting to the MIC was done to provide the residents of the North Corridor a one seat ride to the Airport. If the new Route 97 service had continued to terminate at Dr. Martin Luther King, Jr. Station patrons in this corridor would have had a forced transfer at the Dr. Martin Luther King, Jr. Station, at the Earlington Heights Station and at the MIC, a 3-seat ride, in order to get to the MIA Mover. By extending Route 97 to the MIC, a one-seat ride is provided to the MIC where everyone can transfer to the MIA Mover – the same service as passengers arriving from Dadeland South

Service on Route 97 will be provided by new hybrid articulated buses for a number of reasons:

- The new buses will have a distinctive look to distinguish them from the buses operating on Route 27.
- The low-floor design of the articulated buses allows for faster loading and unloading.
- The articulated buses have a larger seating capacity and provide more leg room offering a truly premium service.
- The articulated bus has a tighter turning radius making them ideal in the urban setting.

## Near Term Transportation Plan For Miami-Dade County

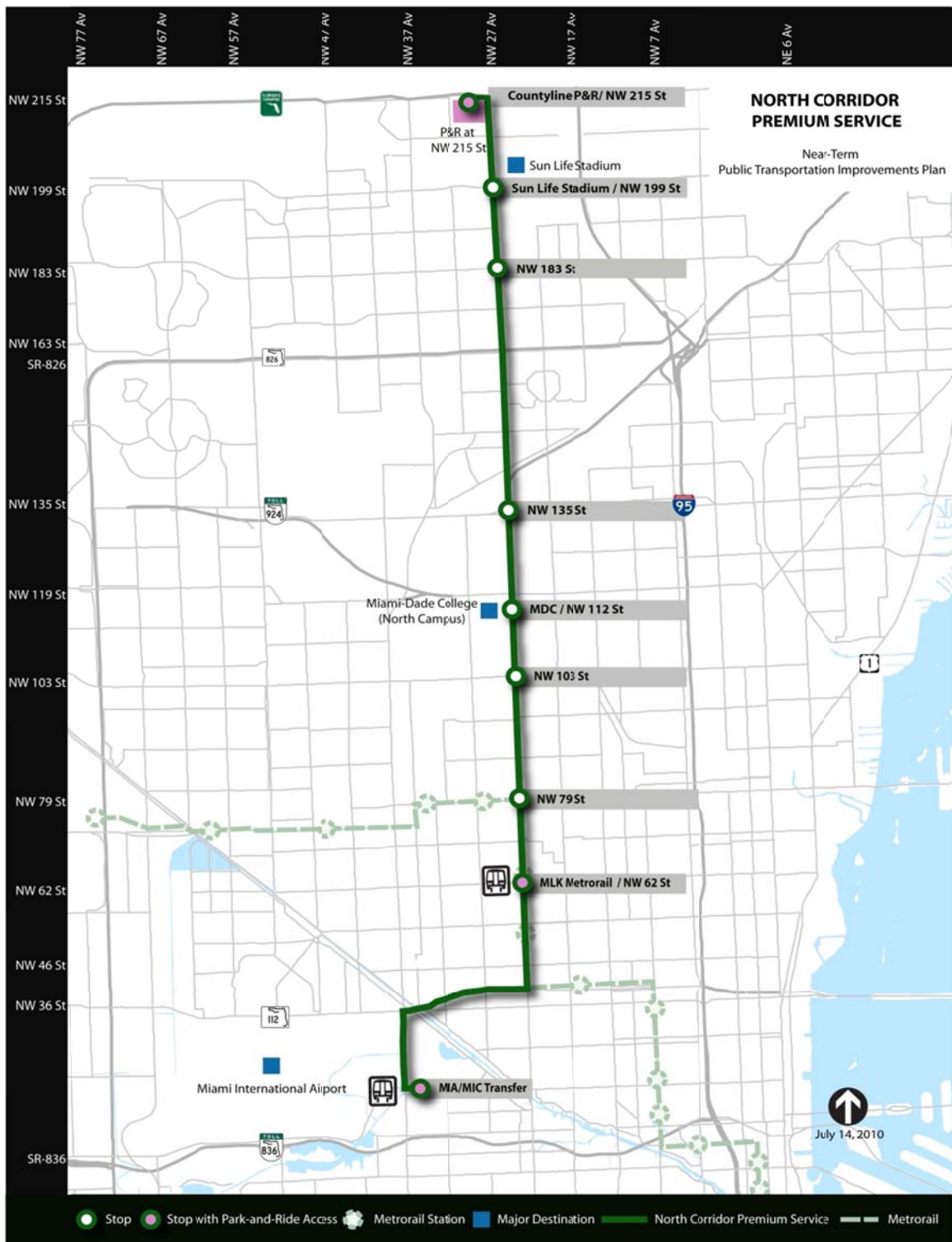


FIGURE 4: PROPOSED NORTH CORRIDOR ALIGNMENT

## Near Term Transportation Plan For Miami-Dade County



*The figure on the left is an example of a closed bus station that is set up for off-bus fare collection.*



The new Route 97 will have eight transit stations: NW 215th Street park-and-ride lot,

NW 199th Street, NW 183rd Street, NW 160th Street, NW 135th Street, Miami-Dade College North, NW 103rd Street, NW 79th Street, Dr. Martin Luther King, Jr. Station, and the MIC. Each bus station will be designated as a station, not a shelter, and will be branded as so that it is visually part of a future BRT system. Each station will have a large seating area, real time arrival information, power and lighting.

All limited-stop buses on NW 27<sup>th</sup> Avenue would benefit from Traffic Signal Prioritization (TSP). Initially, the buses on the new route would be the new 40-foot hybrid buses. They would be replaced by the 60-foot articulated buses as they become available. The buses would be equipped with Wi-Fi and Global Positioning Satellite (GPS) in order to activate the TSP system.

The travel forecast model estimated that by 2015 the new Route 97 service would attract an additional 1,200 riders per day, doubling the ridership on the current Route 97 (1,225 riders per day). The overall corridor would experience an overall growth in daily ridership of 1,000, indicating that 200 trips per day leaving Route 27 for the new Route 97 service and that the other 1,000 boardings are actually new trips attracted to the premium service. Currently the net cost per boarding on Route 97 is \$4.25 the estimated increase in ridership and in boardings would result in a new net cost per boarding of \$4.26.

Currently the run time for Route 97 is 39 minutes. The elimination of the turnaround saves 9 minutes and the reduction in the number of stops will save another 3 minutes on each run between Martin Luther King Station and NW 215<sup>th</sup> Street. The actual run time with the extension to the MIC is estimated to add another 17 minutes to the running time.

### NORTH CORRIDOR IMPLEMENTATION

Because of the schedule for receipt of funds, it is impossible to roll out all of the planned improvements for the North Corridor all at once; however, there will be major service improvements implemented in the corridor phased during the next five years. The near-term projects in the North Corridor are made up of the following components.

- Acquisition of the 14 acre parcel for a new park-and-ride lot will cost \$5.025 million. The acquisition of the property has been approved by the CITT.

## Near Term Transportation Plan For Miami-Dade County

---

- Acquisition of plans and permits need to proceed as quickly as possible. Construction of the parking lot and bus lay-over will be part of the Transit Oriented Development (TOD) that is being proposed for the parcel.
- These 14 new stations would be estimated to cost \$2.1 million. Funding was recently secured from FDOT and needs to be moved to an earlier fiscal year. Detailed station concept and footprints for each location need to be developed.
- The enhanced Route 97 would need six additional buses making a total of eleven buses on the route. All of the buses operating on the new route would need to be equipped with CAD/AVL hardware in order to take advantage of the TSP system.
- There are five new 40-foot hybrid buses currently on order and are scheduled to arrive in January 2011. Although scheduled for replacement buses these new buses could be put on Route 97. Funding was recently secured from FDOT for the six additional 60" articulated hybrid buses in FY 14 and five additional 60" articulated hybrid buses in FY 15. Once the 11 articulated buses are in-service the five 40-foot hybrid will be returned to the fleet.
- With the full implementation of the County's new TSP, there will be no additional costs.

The additional service in the corridor is estimated to add \$1,000,000 to the MDT operating budget. The Job Access/Reverse Commute (JARC) grant will fund 100% of the additional cost the first two years (\$500,000 each year). After the first two years, unless the corridor is granted continuing JARC funding additional operating funding will need to be budgeted.

### **EAST-WEST CORRIDOR**

The East-West Corridor is roughly the area bounded on the north by SR 836/Dolphin Expressway, on the south by SW 8<sup>th</sup> Street on the west by SW 147<sup>th</sup> Avenue and on the east by downtown Miami. In 1998 the Federal Highway Administration (FHWA) signed the Final Environmental Impact Statement (FEIS) for the Minimum Operating Segment (MOS) for the East-West Multimodal Corridor. The Record of Decision (ROD) that was issued on the project was for a heavy rail line to be constructed from the SR 826/Palmetto Expressway through the Miami Intermodal Center (MIC) to Downtown Miami and terminating at the Port of Miami. The estimated cost of the project at that time was \$1.48 billion dollars, year of expenditure costs were over \$2 billion.

In 2005, the County began to re-examine premium transit alternatives along the East-West Corridor between the MIC and Florida International University (FIU) to the west. The study was looking at premium transit service along routes between the SR 836/Dolphin Expressway and SW 8<sup>th</sup> Street. As required by FTA, the study was looking at heavy rail, light rail, bus rapid transit and enhanced bus service in the corridor.

For this study an analysis of the origin destination patterns was undertaken for the east west corridor.



## Near Term Transportation Plan For Miami-Dade County

**Predicted 2030 Zone to Zone trips  
All Purposes**

Destination Origin	FIU	Doral	Civic Center	Government Center
Tamiami	19,024	14,247	6,055	17,185
Kendall	100,685	51,232	17,846	53,619
FIU	266,476	155,495	34,769	83,152
Doral	23,894	67,400	15,325	25,039

The results showed that the heaviest movement is between the FIU subregion and the Airport/Doral subregion. There was a secondary connection FIU and the downtown area. Based upon this flow information additional service was planned in the corridor. There are two premium bus route services that will operate along the East-West Corridor. The first route, the “SW 8<sup>th</sup> Street Enhanced Bus/SR 836 Express”, will operate from a proposed park-and-ride lot at SW 147<sup>th</sup> Avenue and SW 8<sup>th</sup> Street and would provide a couple of stops along SW 8<sup>th</sup> Street before heading north on NW 107<sup>th</sup> Avenue. The route then services the park-and-ride lot at NW 12<sup>th</sup> Street and NW 107<sup>th</sup> Avenue (Dolphin Station) then access SR 836 running express to the MIC. Initially, starting in 2012, this route will operate at a 12-minute headway. Ultimately in 2016, , after interchange construction is complete, the route will operate at a 10-minute headway.

The “Flagler Enhanced Bus” will provide limited-stop bus service that will operate from the park-and-ride lot at SW 147<sup>th</sup> Avenue and SW 8<sup>th</sup> Street and would provide a couple of stops along SW 8<sup>th</sup> Street before heading north on NW 107<sup>th</sup> Avenue to West Flagler Street from which it heads east to downtown. The route will operate at a 12-minute headway. A new park-and-ride facility at SW 147<sup>th</sup> Avenue and SW 8<sup>th</sup> Street should be developed to serve this new limited-stop bus service operation.

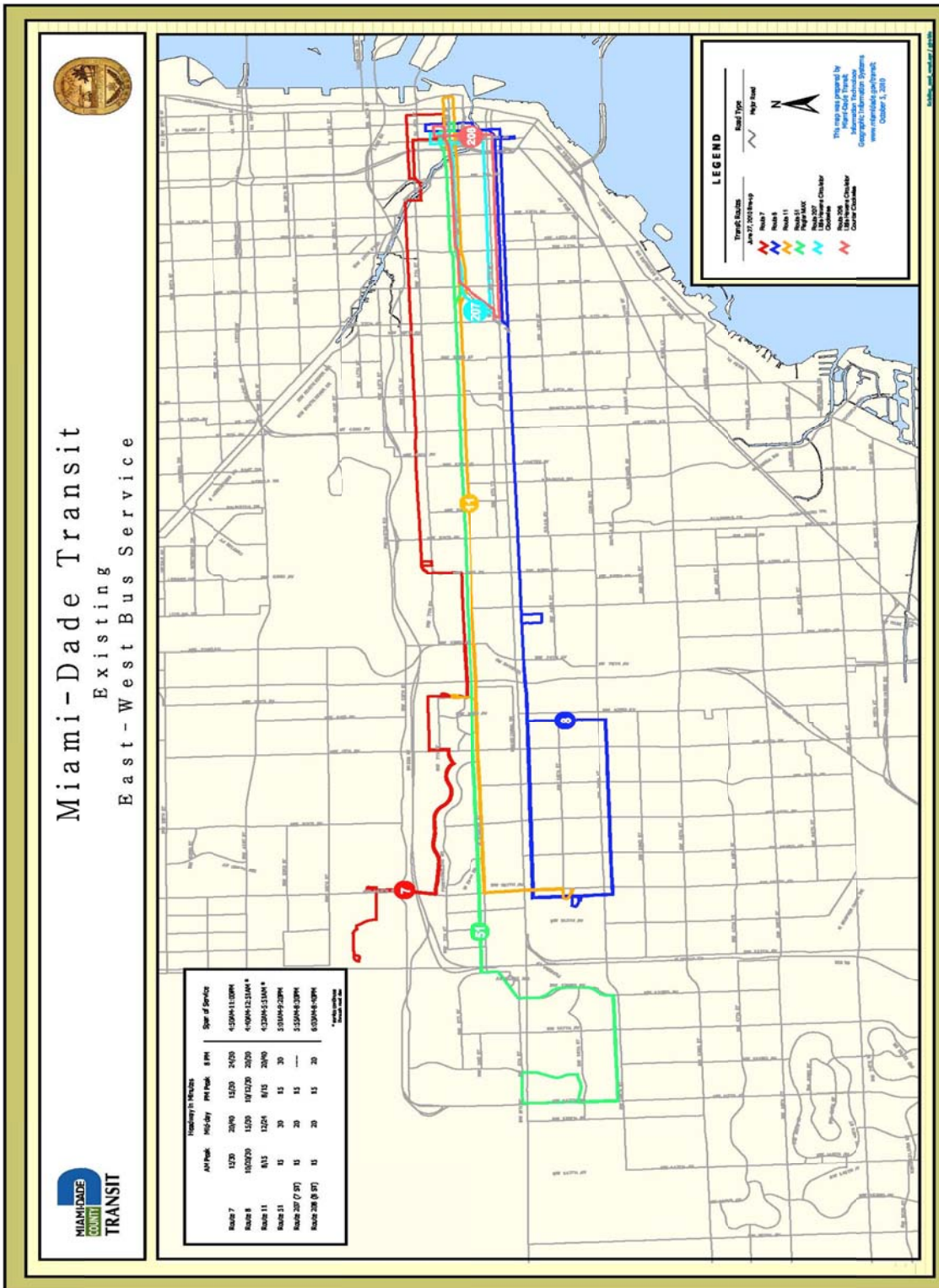
### EXISTING EAST-WEST BUS SERVICE

There are 4 MDT routes that currently run east-west through the corridor. East of NW 27<sup>th</sup> Avenue two MDT circulators enhance the service in the corridor. These routes are shown in Figure 5.

- Route 7 runs predominately along NW 7<sup>th</sup> Street from the Dolphin Mall to downtown Miami.
- Route 8 runs along SW 8<sup>th</sup> Street from FIU through Brickell and into downtown Miami.
- Route 11 runs along West Flagler Street from FIU to downtown Miami.
- Route 51 (Flagler MAX) runs along West Flagler Street from SW 137<sup>th</sup> Avenue to downtown Miami.
- Route 207 is the clockwise Little Havana circulator on SW 7<sup>th</sup> Street and SW 1<sup>st</sup> Street running between downtown Miami and NW 27<sup>th</sup> Avenue
- Route 208 is the counterclockwise Little Havana circulator operating on SW 8<sup>th</sup> Street and West Flagler Street running between downtown Miami and NW 27<sup>th</sup> Avenue.

West of SR 826 the East-West corridor provides peak period headways of one bus every 7.5 minutes and every 11 minutes during the midday.

# Near Term Transportation Plan For Miami-Dade County



**FIGURE 5: EXISTING TRANSIT IN EAST-WEST CORRIDOR**

## Near Term Transportation Plan For Miami-Dade County

---

Between SR 826/ and NW 27th Avenue the bus service levels are more frequent and provide peak period headways of one bus every six minutes and every ten minutes during the midday.

Then east of NW 27th Avenue with the Little Havana Circulators the level of bus service continues to improve with peak period headways of one bus every four minutes and every seven minutes during the midday.

The high level of bus service in the corridor is reflected in the current ridership. Ridership through the corridor is over 30,000 boardings every day. On West Flagler Street Route 11 has 10,500 boardings a day. Route 51 picks up 3,500 boardings per day on West Flagler Street. Combined Routes 207 and 208 get 3,100 boardings per day. Route 7 and Route 8 are also strong picking up 5,500 and 7,500 boardings per day, respectively.

The high level of bus service comes at a cost, the 2009 annual direct operating costs for each line in the corridor are as follows:

- Route 7 - \$4,351,000
- Route 8 - \$5,722,000
- Route 11 - \$7,304,000
- Route 51 – \$3,135,000
- Route 207-\$1,295,000
- Route 208-\$1,253,000
- TOTAL            \$23,060,000

### PROPOSED EAST-WEST CORRIDOR IMPROVEMENTS

It is planned to implement a new express bus route between West Miami-Dade County and the MIC utilizing SR 836/Dolphin Expressway. As shown in Figure 6 the route would run from a new park-and-ride lot at the southwest corner of SW 8<sup>th</sup> Street and SW 147<sup>th</sup> Avenue along SW 8<sup>th</sup> Street to SW 107<sup>th</sup> Avenue, then turning north to run along the length of the Florida International University (FIU) campus to NW 12<sup>th</sup> Street. The route would then return south on NW 107<sup>th</sup> Avenue and enter SR 836/Dolphin

Expressway where it would run express all of the way to the MIC. This route would be unique in that it has the potential to not only feed trips from the west to Metrorail and the Airport but also provide reverse commute services from the MIC to job rich areas in the west side of Doral. The route will operate between 5:30 AM and 8:00 PM, and would operate on 12 minute headways. The estimated travel time is 44 minutes. The travel forecast model estimated that this route would serve 1,850 boardings per day. This estimate would make this route one of the higher ridership express bus routes in the system. The estimated boardings and operating cost of the new east-west express yields a net cost per rider of \$3.62. Since this is a new route the cost can only be compared with the average net cost per rider of \$3.38 for express and Max service.

Bus Stations will be provided at SW 147<sup>th</sup> Avenue, at 137<sup>th</sup> Avenue, SW 112<sup>th</sup> Avenue, SW 107<sup>th</sup> Avenue at West Flagler, at the park-and-ride lot at NW 12<sup>th</sup> Street and at the MIC. Each bus station will be designated as a station, not a shelter, and will be branded as so that it is obviously part of a future BRT system. The station will have a large seating area, real time arrival information, power and lighting. An example of a well-equipped bus station is shown below.

Near Term Transportation Plan For Miami-Dade County

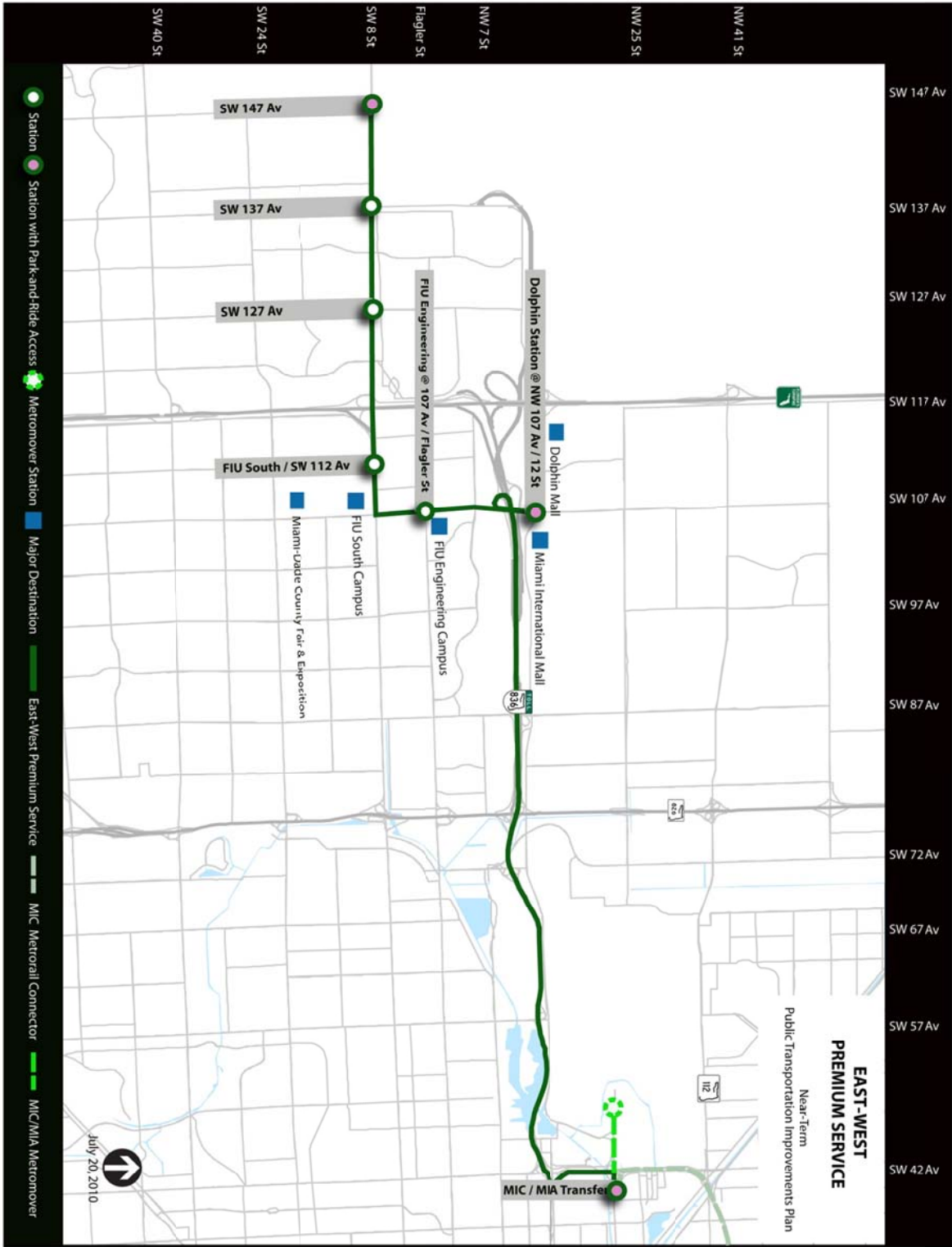
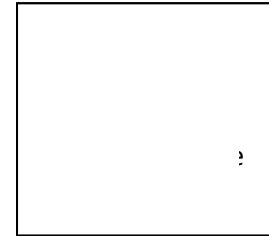


FIGURE 6: PROPOSED EAST-WEST EXPRESS

## Near Term Transportation Plan For Miami-Dade County

---

FDOT currently owns an 8 acre parcel on the southwest corner of SW 8<sup>th</sup> Street and SW 147<sup>th</sup> Avenue that has been identified as surplus property and is available for development. In 2005 the parcel was appraised at \$5 million. Two of the eight acres are Pinewood Hardwood Hammock and cannot be used. This parcel should be redeveloped as a park-and-ride facility for service from the west but should also be developed as a park-and-pool lot for carpoolers to help as a traffic mitigation measure during the reconstruction of the SR 826/836 Interchange.



### SR 836 EXPRESS BUS IMPLEMENTATION

- In 2012 two important elements of this service will open up: the transit hub at NW 107<sup>th</sup> Avenue and NW 12<sup>th</sup> Street and the Metrorail service to the MIC. This transit hub, Dolphin Station, is being provided by a developer as part of a 2007 CDMP application and will be turned over to the County. The hub will initially provide a 189 space surface park-and-ride facility and 10 saw-toothed bays for the buses. This facility will have minimal operating and maintenance costs.
- Acquisition from FDOT of the 8 acre parcel at NW 147<sup>th</sup> Avenue and NW 8<sup>th</sup> Street for a new park-and-ride lot will cost approximately \$5 million. FDOT should consider developing the site as a maintenance of traffic project while the SR 826/836 interchange is under construction.
- Acquisition of the land and development of the site, including plans and permits need to proceed as quickly as possible if the park-and-ride lot is to be available for the opening of the enhanced bus service in the East-West Corridor.
- Operation of the express service will require the acquisition of 11 buses. There are currently no capital grants programmed for buses for the East-West Express. Money will need to be reprogrammed from one programmed project in order to fund this project during the next five years.
- Outside of the two park-and-ride lots and the MIC eight bus stations will need to be constructed at a cost of \$1,200,000. These facilities are not currently funded. During the next 6 months a detailed station concept and footprint for each location needs to be developed. Where ever possible the footprint should fit within the existing right-of-way and still meet the Americans with Disabilities Act (ADA) standards.



# Near Term Transportation Plan For Miami-Dade County

---

## **PROPOSED TRANSIT IMPROVEMENTS ON WEST FLAGLER STREET**

Flagler Street Enhanced Bus is scheduled for implementation in FY 2014. Route 51's current 15 minute peak period headways would be improved to 12 minutes and midday service would remain the same. The west end of the route would be modified; at SW 107<sup>th</sup> Avenue the route would turn south and continue to SW 8<sup>th</sup> Street where it would proceed in a westerly direction to a new park-and-ride facility at SW 147<sup>th</sup> Avenue. The route would terminate in the park-and-ride lot providing a layover location and a place to turn around, enabling MDT to eliminate the circuitous route via Coral Way. The stops along West Flagler Street would remain the same as they are for the current Route 51 operations; new stops from 107<sup>th</sup> Avenue west include W. 112<sup>th</sup> Avenue at SW 8<sup>th</sup> Street, SW 8<sup>th</sup> and 122<sup>nd</sup> Avenue, 127<sup>th</sup> Avenue, SW 132, SW 8<sup>th</sup> and 137<sup>th</sup> Avenue and the park-and-ride lot at 147<sup>th</sup> Avenue. There would be a total of 27 stops along the modified route, which is shown in Figure 7.

The services in the East-West Corridor are designed to work together. The area west of 107<sup>th</sup> Avenue has equal access to local service on Flagler, limited stop service on Flagler and Express service to the MIC. East of NW 107<sup>th</sup> Avenue patrons have access to local and limited stop service along Flagler into downtown Miami or access to north-south routes to the Doral and the MIC.

The additional service would require adding four buses to the fleet to serve this expansion.

Limited stop buses on West Flagler Street would benefit from the Traffic Signal Prioritization (TSP). The buses on the new route would be the new articulated buses. The buses would be equipped with WiFi and hardware to activate the TSP system.

The new alignment provides a bus turnaround/layover location ending the need for the circuitous routing at the west end of the alignment. The new routing shown in 6 would reduce the travel time from 80 minutes to approximately 68 minutes. The current boardings on Route 51 are 3,411 and the cost per boarding is \$2.52, the lowest cost per boarding of all the limited stop services. The improved headways would increase the daily ridership to 3500 and increase the cost per rider to \$3.70, still lower than the majority of the limited service costs.

## **FLAGLER ROUTE IMPLEMENTATION**

The near-term projects along West Flagler Street are made up of the following components.

- Acquisition from FDOT of the 8 acre parcel for a new park-and-ride lot will cost \$5 million. FDOT should consider developing the site as maintenance of traffic project while the SR 826/836 interchange is under construction.

# Near Term Transportation Plan For Miami-Dade County

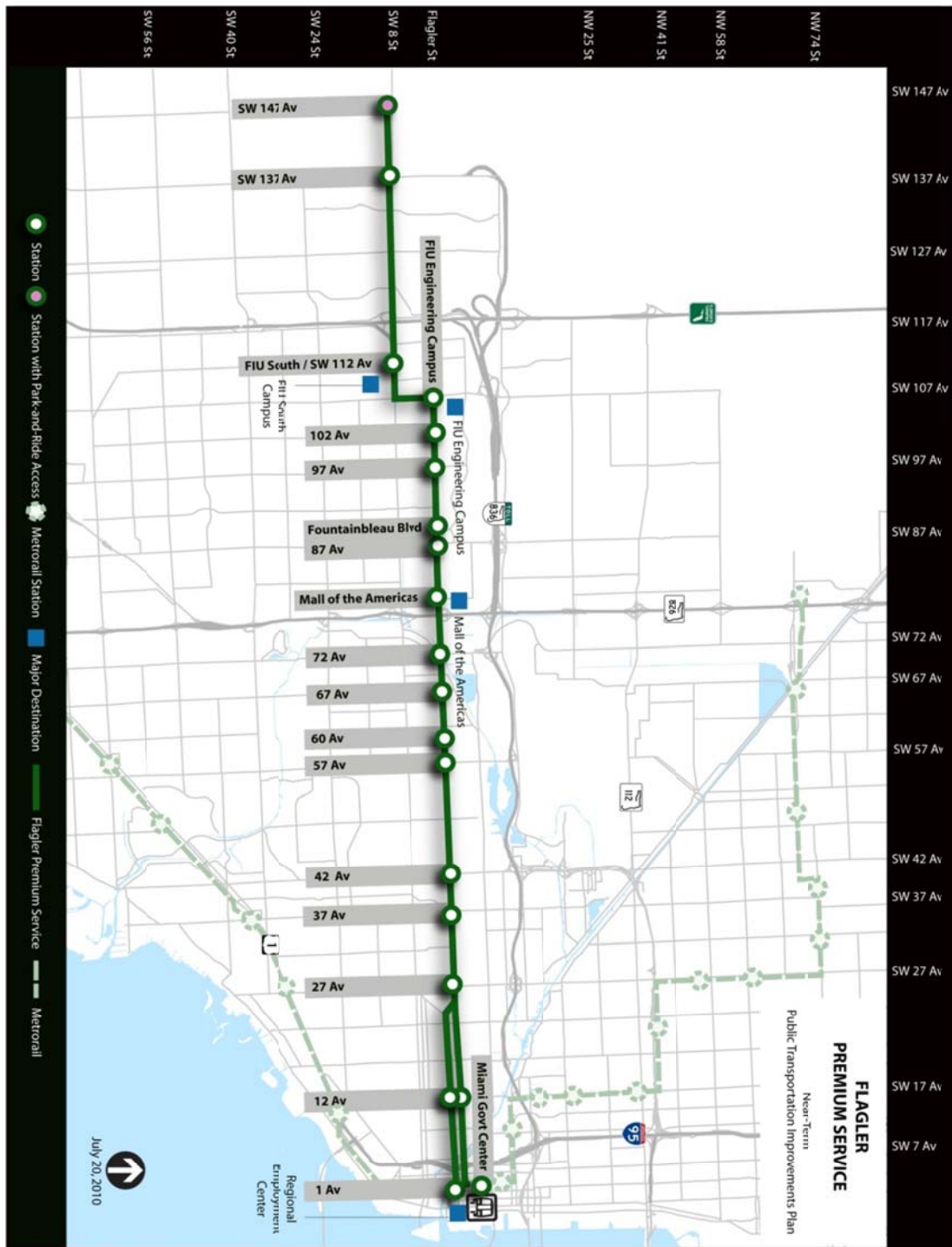


FIGURE 7: PROPOSED FLAGLER ROUTE

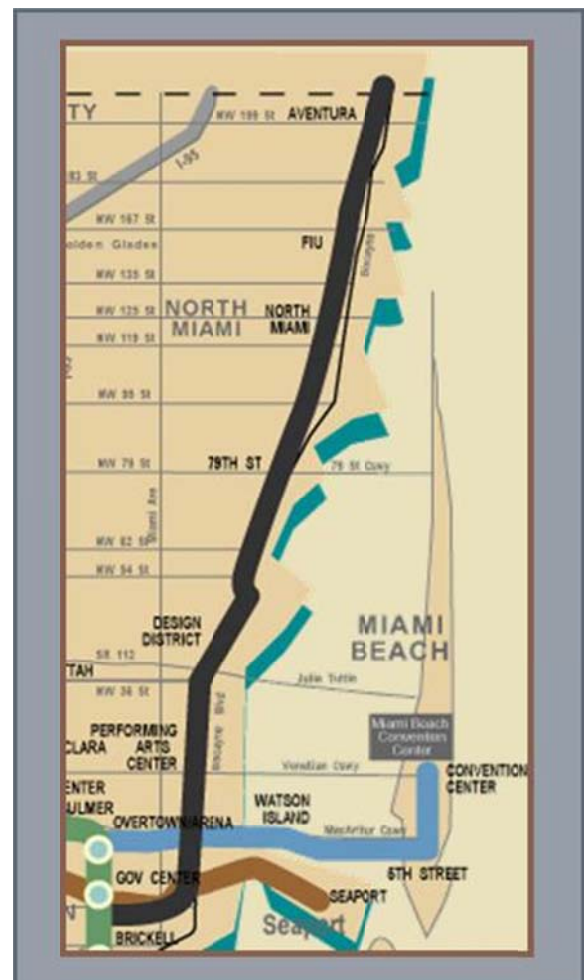
## Near Term Transportation Plan For Miami-Dade County

- Acquisition of the land and development of the site, including plans and permits need to proceed as quickly as possible if the park-and-ride lot is to be available for the opening of the enhanced bus service along West Flagler Street. Construction of the parking lot and bus lay over facilities would cost \$5,100,000.
- The route would need 4 new articulated buses at a cost of \$950,000 each for a total cost of \$3.8 million. All of the buses operating on the new Route 51 would need to be equipped with CAD/AVL hardware in order to benefit from the TSP system.
- There is no capital money programmed for new buses to operate in the Flagler corridor. There is \$2.2 million funded in the TIP during FY 2013 for an unspecified BRT Corridor. In order to utilize a portion of the money in the Flagler corridor the money in the County Incentive Grant Program will need be defunded then reprogrammed to the Flagler corridor. There is no guarantee that those funds will not be lost once they are defunded.
- No additional moneys will be required to implement the TSP System along this priority corridor.

### NORTHEAST CORRIDOR TRANSIT IMPROVEMENTS

The Northeast Corridor, which includes the FEC Rail Corridor and Biscayne Boulevard from Downtown Miami Government Center to the Miami-Dade/Broward County line, was merged into a larger regional study now called the South Florida East Coast Corridor Study (SFECC). FDOT District 4 is conducting an Alternatives Analysis/Programmatic Environmental Impact Statement for the FEC Corridor from Jupiter, in northern Palm Beach County to Downtown Miami. The study has examined heavy rail, light rail, commuter rail and bus rapid transit options along the corridor. No locally preferred alternative has been selected to date. Regardless of the mode selected for the locally preferred alternative, it could be years before the project is implemented. In the meantime, Miami Dade Transit is planning on implementing enhanced bus service along Biscayne Boulevard with improved headways, branded buses and improved bus stops, similar to what has been implemented in the Kendall Corridor.

Two bus routes currently serve Biscayne Boulevard. Route 3 offers local bus service between the Aventura Mall, 163<sup>RD</sup> Street Mall and Government Center in



## Near Term Transportation Plan For Miami-Dade County

downtown Miami. The route is operated 24 hours per day and takes approximately 101 minutes to complete a one way trip. The other route is Route 93 (Biscayne MAX), which operates limited-stop bus service along Biscayne Boulevard between the Aventura Mall and Government Center in downtown Miami. Route 93 provides service between the hours of 5:30 am and 8:00 pm and takes approximately 58 minutes to complete a one-way trip. The two routes on Biscayne Boulevard are relatively direct routes and provide for ease of understanding for the passenger. Route 3 has about 6 bus stops per mile, which provides great access for the patron but very long running times, making the Route 3 good for short local trips. Route 93 averages two stops per mile which provides more limited accessibility but greatly improved running times.

The corridor overall provides a good level of service with peak period headways of one bus every nine minutes and every 11 minutes during the midday. From NE 79<sup>th</sup> Street to Government Center Route 16 runs along Biscayne Boulevard into Downtown Miami. Route 16 improves the overall headways on Biscayne Boulevard providing peak period headways of one bus every six minutes and every eight minutes during the midday.

At 8,800 average daily riders Route 3 is the fifth heaviest utilized route in the system. Route 93 performs well within the MAX and the KAT services, as well, at 3,100 daily boardings. Ridership on this corridor is surpassed only by Miami Beach, NW 27<sup>th</sup> Avenue, Busway, NW 7<sup>th</sup> Avenue, and Flagler.

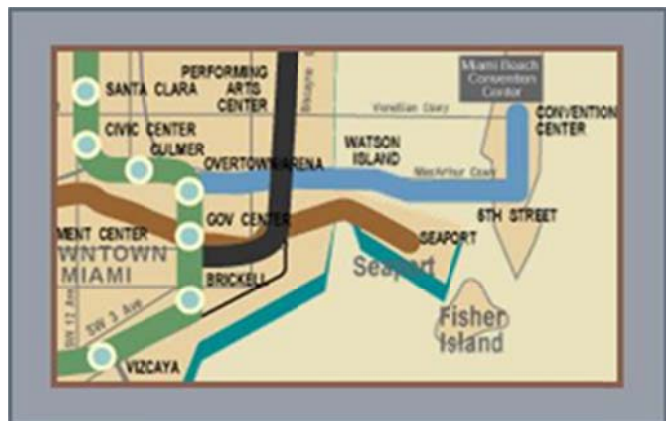
In FY 2014 service on Route 93 is planned to increase during the peak period from 18 minutes to 15 minutes and the off peak frequency from 30 minutes to 20 minutes. These modifications will require 7 additional buses (articulated buses will be used) at a cost \$6.65 million, which is fully funded in the TIP. There is nearly \$18 million in the TIP for funding buses for Biscayne Boulevard. Approximately \$11 million of that amount is planned to be reprogrammed to pay for buses for the East-West Corridor, leaving sufficient funds for the purchase of the buses for this service. The O&M cost of this additional service will be \$1,092,000 annually. There are no operating and maintenance monies programmed for this additional service.

The travel forecast model estimates that this additional service will attract 650 new daily riders to the route.

### OTHER PTP CORRIDORS

[Bay Link](#)

The *East-West Multimodal Corridor Study DEIS* completed in 1995 merged two high priority corridors from the 1994 *Dade County Transit Corridors Transitional Study* – the West Corridor and the Beach Corridor. The MPO Board selected a Locally Preferred Alternative



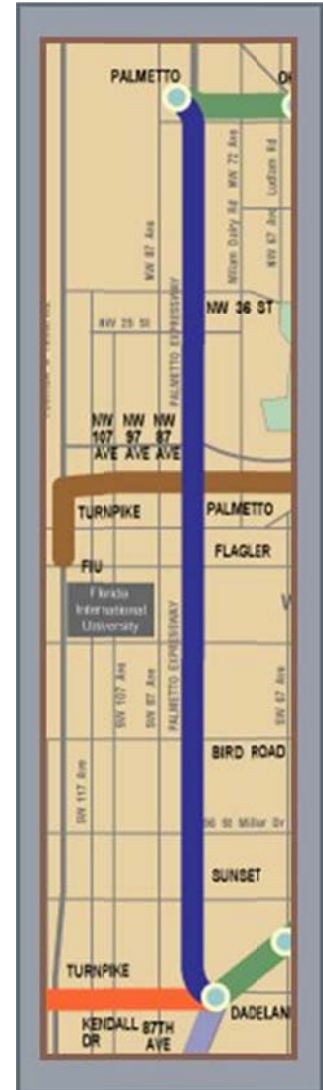
## Near Term Transportation Plan For Miami-Dade County

(LPA) that excluded the portion of the project going to Miami Beach. Therefore, a stand-alone analysis of the transit connection between downtown Miami and Miami Beach was undertaken in 2002 as the *Miami-Miami Beach Corridor (Bay Link) Supplemental Draft Environmental Impact Statement (SDEIS)*. The study examined a light rail connection between downtown Miami and the Miami Beach Convention Center along the McArthur Causeway. The study found that the corridor was already saturated with local bus service and the corridor was ready to evolve to the next higher form of transit – light rail service. An LPA was selected by the MPO Board in 2003. However, MPO Board was unwilling to program the funds to advance the project into the PE/FEIS stage due to other funding priorities of the County.

For this corridor to advance another supplemental DEIS would have to be conducted, since environmental studies are only certified for five years.

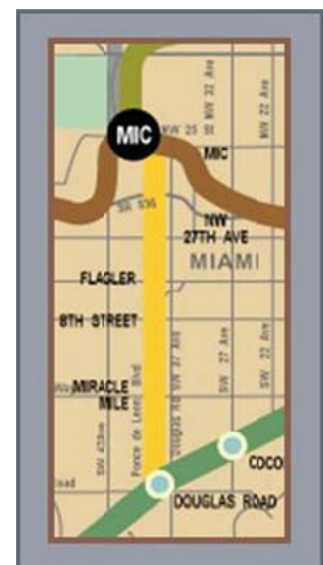
### Palmetto Corridor

The Palmetto Corridor, which extends from the Dadeland South Metrorail Station to the Palmetto Metrorail Station along SR 826/Palmetto Expressway, has not yet been studied. However, the Florida Department of Transportation (FDOT) will be studying the conversion of the existing lanes to HOT lanes from SR 836/Dolphin Expressway north to I-75. South of SR 836, part of the Palmetto Expressway is under reconstruction at this time.



### Douglas Road Connector

The Douglas Road Connector Corridor which extends from the Douglas Metrorail Station to the MIC along NW 37<sup>th</sup> Avenue/Douglas Road has not yet been studied.

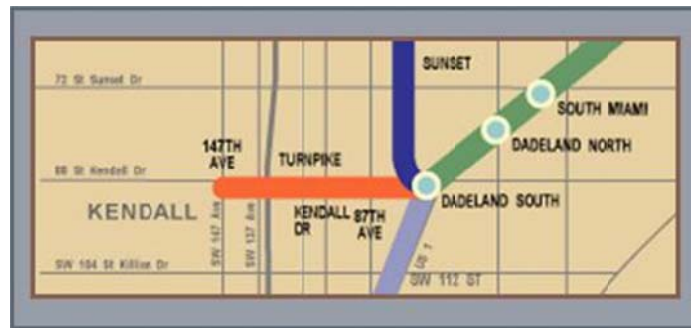




# Near Term Transportation Plan For Miami-Dade County

## [Kendall Corridor \(Kendall Link\)](#)

The Kendall Corridor extends along Kendall Drive/SW 88<sup>th</sup> Street from the Dadeland South Metrorail station to SW 147<sup>th</sup> Avenue. In 2000 the Kendall Corridor was the subject of a Major Investment Study (MIS) with a reversible lane BRT being selected as the Locally Preferred Alternative. In 2007 a full Alternative Analysis was completed but no LPA was selected. In June 2010 Miami Dade Transit (MDT) implemented enhanced bus service with branded articulated hybrid buses, improved transit stops, Wi-Fi, Traffic Signal Priority, future park and ride lots and improved headways. This is the first step in the evolution of the corridor toward Bus Rapid Transit and sets a model for premium transit service



## [South Dade Corridor \(South Link\)](#)

In 2006 the Miami Dade MPO Board selected a locally preferred alternative (LPA) for the South Link Corridor, which runs along the South Dade Busway/US-1 from the Dadeland South Metrorail Station to SW 344<sup>th</sup> Street in Florida City. The study examined several modes of transit along the corridor including grade separating key intersections along the Busway, light rail and a partial or full extension of the Metrorail along the corridor. The LPA for the South Link included a Metrorail Extension to SW 104<sup>th</sup> Street and the construction of grade separations at key intersections along the Busway. Following the selection of the LPA, the MPO Board requested that the MPO look at the feasibility of providing managed toll lanes along the Busway to help fund transit improvements in this corridor. Subsequent to the completion of a feasibility study to convert the Busway, the Miami Dade Expressway Authority (MDX) is conducting a PD&E Study to determine if it is possible for that agency to proceed with implementation.



## IMPLEMENTATION PLAN

## Near Term Transportation Plan For Miami-Dade County

---

The 2011 Transportation Improvement Program (TIP), which was adopted by the MPO Board in June 2010 estimated the transportation money available to the County and specifies the proposed transportation projects to be implemented over the coming five-years. The TIP includes the following fund distribution for fiscal year 2011-2015:

### Highways-State Roads

FDOT	\$3,344,000,000
Turnpike	\$ 38,000,000
MDX	<u>\$ 443,000,000</u>
	\$3,825,000,000
County Roads	\$ 382,000,000
Local Option Gas Tax	\$ 4,000,000
Transit	\$1,263,000,000
Aviation	\$ 217,000,000
Seaport	\$ 586,000,000
Non-Motorized	<u>\$ 45,000,000</u>
TOTAL	\$6,322,000,000

During this time frame a number of key projects will be completed. The Central Station of the Miami Intermodal Center (MIC) will be completed along with the Stage I Metrorail Extension between the Earlington Heights Station and the MIC and the new people mover system connecting the MIC to the air terminals at Miami International Airport. While the money available for transit looks substantial, almost half of the funds available for transit (\$640 million) is programmed for capitalization of preventative maintenance of the existing system. Another \$400 million is programmed for the replacement of the Metrorail fleet.

The completion of two projects – the Port Tunnel and the reconstruction of the SR 836/826 Interchange will improve traffic conditions in downtown Miami and along both the SR836 and the SR 826 Expressways.

Enhanced bus service along the North Corridor will be introduced with new articulated buses operating on twelve-minute peak period headways on a limited-stop route that has been modified to run the length of NW 27<sup>th</sup> Avenue then directly into the MIC. A new park and ride lot at NW 215<sup>th</sup> Street and NW 27<sup>th</sup> Avenue will be implemented during this time frame to serve the North Corridor passengers.

The East-West Corridor will be served by a new express bus service between NW 147<sup>th</sup> Avenue and the MIC. The new route will operate along SW 8<sup>th</sup> Street to NW 97<sup>th</sup> Avenue then along SR 836 to the MIC. Two park and ride facilities will be provided in the corridor, one at SW 8<sup>th</sup> Street and 147<sup>th</sup> Avenue, and one at NW 12<sup>th</sup> Street and 97<sup>th</sup> Avenue. This route will operate on twelve minute headways during peak periods only. Enhanced bus service will also operate along Flagler Street with new bus stations, and articulated buses. The limited stop route will operate on 12 minute headways during peak periods and will be straightened out to serve the new park and ride lot at SW 8<sup>th</sup> Street and 147<sup>th</sup> Avenue.

Finally, bus service along the Northeast Corridor (Biscayne Boulevard) will see improved headways on Route 93 going from one bus every 18 minutes to one bus every 15 minutes. Articulated buses will also be introduced on the corridor.

## Near Term Transportation Plan For Miami-Dade County

The Table 4 summarizes the capital costs of the transit projects that need to be funded between 2012 and 2015. The table shows that even the modest transit expansion recommended in this near term program exceeds the funds currently programmed for these corridors. Reprogramming of funds within the TIP will be required to implement this program.

**TABLE 4  
TRANSIT PROJECT COST SUMMARY**

Corridor Projects	Capital Costs	Revenue Available	Balance
	Begins Revenue Service 2012		
<b>Airport Link</b>	Previously Covered	Previously Covered	Previously Covered
<b>Route 7</b>	\$950,000	0	(\$950,000)
	Begins Revenue Service 2015		
<b>North Corridor</b>			
11 60' Articulated buses	\$10,450,000	FY 14 \$5,700,000 FY 15 \$4,750,000	0
Park-and-ride at NW 215 Street	\$5,025,000	FY 10 \$5,025,000	0
Construct Lot	\$5,510,000	FY 15 \$2,510,000	(\$3,000,000)
-16 bus stations	\$2,400,000	FY 14 \$2,400,000	
ROW	\$2,240,000	FY 13 \$2,240,000	
	Begins Revenue Service 2012-2014		
<b>East-West Corridor</b>			
Additional buses on Route 51	\$3,800,000	FY 12 \$2,000,000 FY 13 \$1,800,000	0
New Express Route	\$10,450,000	FY 12 \$1,000,000 FY 13 \$9,450,000	0
8 bus stations	\$1,200,000		(\$1,200,000)
ROW	\$1,120,000		(\$1,120,000)
Transit Hub at 107 Ave. and 12 Street	Developer provided.	Developer provided	Developer provided
Park-and-ride at SW 147 Ave.	\$5,000,000	0	(\$5,000,000)
Construct Lot	\$5,100,000	0	(\$5,100,000)
	Begins Revenue Service June 2014		
<b>Biscayne Enhanced</b>			
7 Articulated Buses	\$6,650,000	FY 13 \$6,650,000	0
<b>TOTAL CAPITAL COST</b>	<b>\$59,895,000</b>	<b>\$43,525,000</b>	<b>(\$16,370,000)</b>

The capital costs are based upon the following unit costs:

- Bus stations \$150,000
- Articulated Bus \$950,000
- 40' Hybrid Bus \$680,000
- ROW for stations \$140,000
- Parking Space \$ 7,200

## Near Term Transportation Plan For Miami-Dade County

---

Table 5 summarizes the capital grants that are already programmed for the next five years. When funding was programmed the County was pursuing BRT programs in the Biscayne and Flagler Corridors and rail programs in the North and East West corridors. In order to shift these programmed funds the County will work with FDOT to shift these grants for bus capital to the North and East-West Corridors. The majority of the funds for the purchase of new buses are TRIP (Transportation Regional Incentive Program) and CIGP (County Incentives Grant Program). These programs are awarded to specific projects and cannot be moved by a simple TIP amendment. The reprogramming of these grants is a two-step process that entails defunding the current program. This can be a dangerous step because the money goes back into the pot and can disappear. The County must then request a grant to fund the new corridors projects. Table 5 summarizes all of the grant reprogramming necessary to fund the new five-year plan as outlined in this document. Table 5 includes \$36.818 million of grant money programmed in the TIP. The recently provided \$5.025 million CITT award brings the 5 year capital funding to \$41,843. Table 4 shows that the five-year capital needs for the additional transit services are \$54.225 million, leaving \$19.850 million unfunded. The unfunded projects include the acquisition of land for two park-and-ride lots, the construction of bus facilities and parking in all three park-and-ride lots, the bus stations along the routes, and the additional bus for the Stadium service.

Table 6 shows an annual increase of \$28.416 million in O&M costs when all of these projects are implemented. The County has received JARC funding in the amount of \$3.1 million which will be applied to the cost of the East-West and the North Corridor operations. However, the JARC funding is for a single year, but can be applied for repeatedly. There is no guarantee that JARC funds will be continually received for a project.

# Near Term Transportation Plan For Miami-Dade County

**TABLE 6  
TRANSIT O&M SUMMARY**

Corridor Projects	O&M Costs	Revenue Available	Balance
	Begins Revenue Service 2012		
<b>Airport Link</b>	\$15,000,000	\$8,000,000	(\$7,000,000)
<b>Ballpark Service</b>	Under study	Under study	Under study
<b>North Corridor</b>			
Additional service on 97	\$500,000	\$500,000*	
Replacement buses to be placed on Route 27	Already covered	Already covered	Already covered
Park-and-ride at NW 215 Street	\$270,000		(\$270,000)
16 bus stations	\$86,000		(\$86,000)
<b>East-West Corridor</b>			
Additional buses on Route 51	\$330,000		(\$330,000)
New Express Route	\$2,000,000	\$1,000,000**	(\$1,000,000)
Transit Hub at 107 Ave. and 12 Street	\$120,000		(\$120,000)
Park-and-ride at SW 147 Ave.	\$120,000		(\$120,000)
8 stations	\$43,000		(\$43,000)
<b>Biscayne Enhanced</b>			
7 Articulated Buses	\$1,092,000		(\$1,092,000)
<b>TOTAL O&amp;M COST</b>	<b>\$19,561,000</b>	<b>\$9,500,000</b>	<b>(\$10,061,000)</b>

\*JARC funds are only funded for FY 12 and 13

\*\* JARC funded for FY 12 only

Tables 7A, B and C present the implementation schedules for the projects planned for the next 5 years. The capital grants for the procurement of buses are spread out across the five years of this plan. Often the anticipated amount of the grant is insufficient to acquire the number of buses needed to implement additional service in a corridor. The schedule for the acquisition of buses reflects the fact that when Miami-Dade County receives the first grant to purchase articulated buses there will not be an existing contract in place so the schedule for the first capital grant reflects the time necessary for a new procurement as well as manufacturing, inspection delivery and testing of the new buses. Once the initial grant is in place future orders for articulated buses can be added to the original contract saving procurement. Also once buses are being produced for MDT there are some time savings on the manufacturing as well. The attached schedule reflects the current status of funding and planning. Modifications to programming can improve the delivery schedule for each of the corridors. Additionally once funding is determined for unfunded corridor improvement items the schedule can be updated.



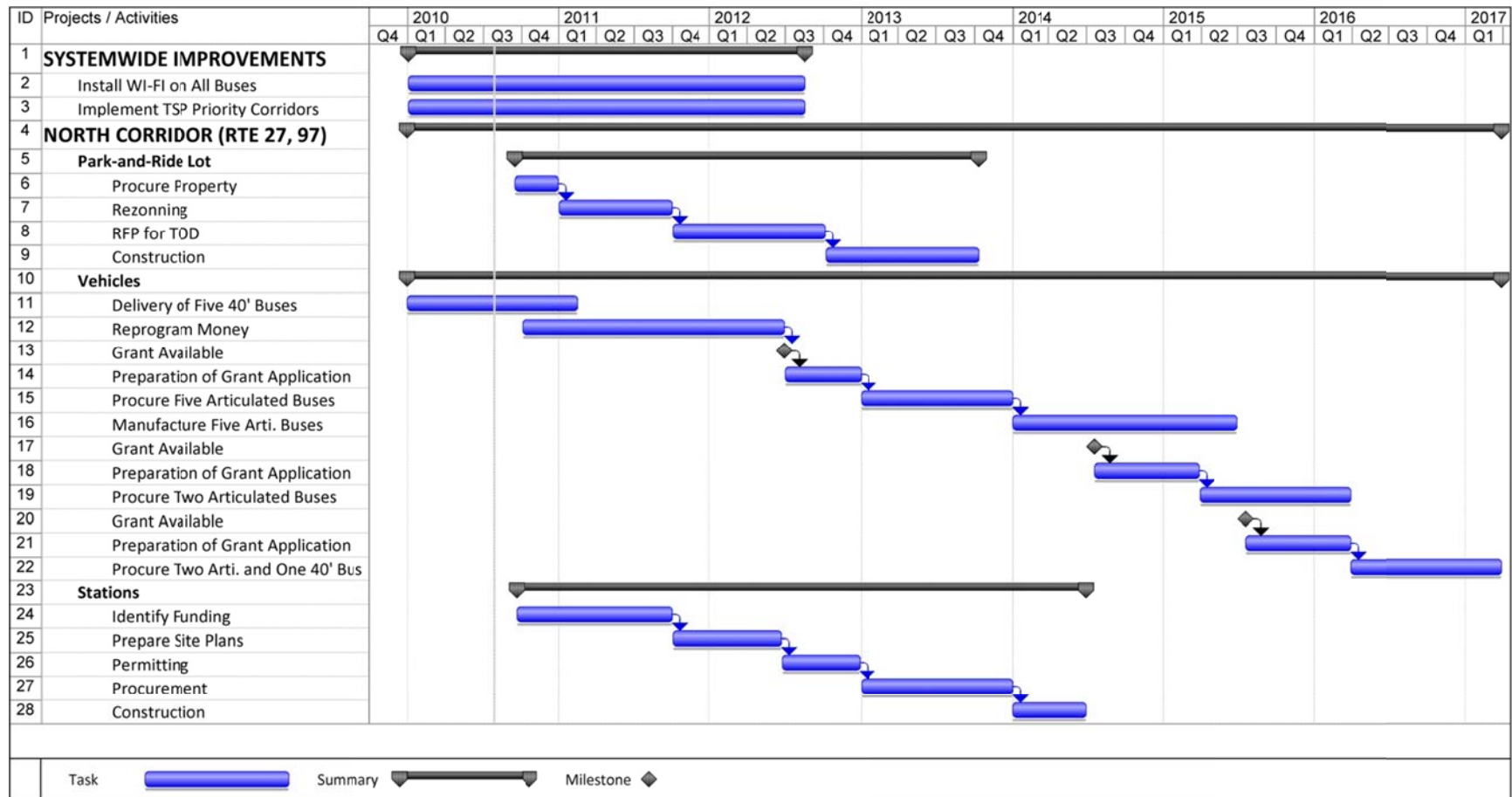
## Near Term Transportation Plan For Miami-Dade County

**Table 5**  
**Available Capital Funding**

Money Programmed To				Money Reprogrammed To			
Corridor	Scheduled (FY)	Amount (millions)	FY 2010-11	FY 2012	FY 2013	FY 2014	FY 2015
North Corridor (NC)	FM 428011-1						
	2010	\$5.025	\$5.025 NC Park and Ride				
	2013	0			\$2.240 from FY 2015		
	2014	\$8.129				\$8.129 to NC	
	2015	\$11.704					\$11.720 to NC (\$9.480 if money to FY 13)
Busway	FM422675-8						
	2012	\$7.0		\$7.0 stays in Busway			
	2013	\$5.0			\$5.0 stays in Busway		
BRT	FM420793-1						
	2013	2.167			\$2.167 to Flagler buses		
Biscayne	FM 422675-1						
	2012	\$1.056		\$1.056 to East-West			
	2013	\$16.338			\$9.854 to East-West \$6.484 to Biscayne buses		
	2014	\$0.604				\$.604 to Biscayne buses	
<b>Total</b>		\$57,023					

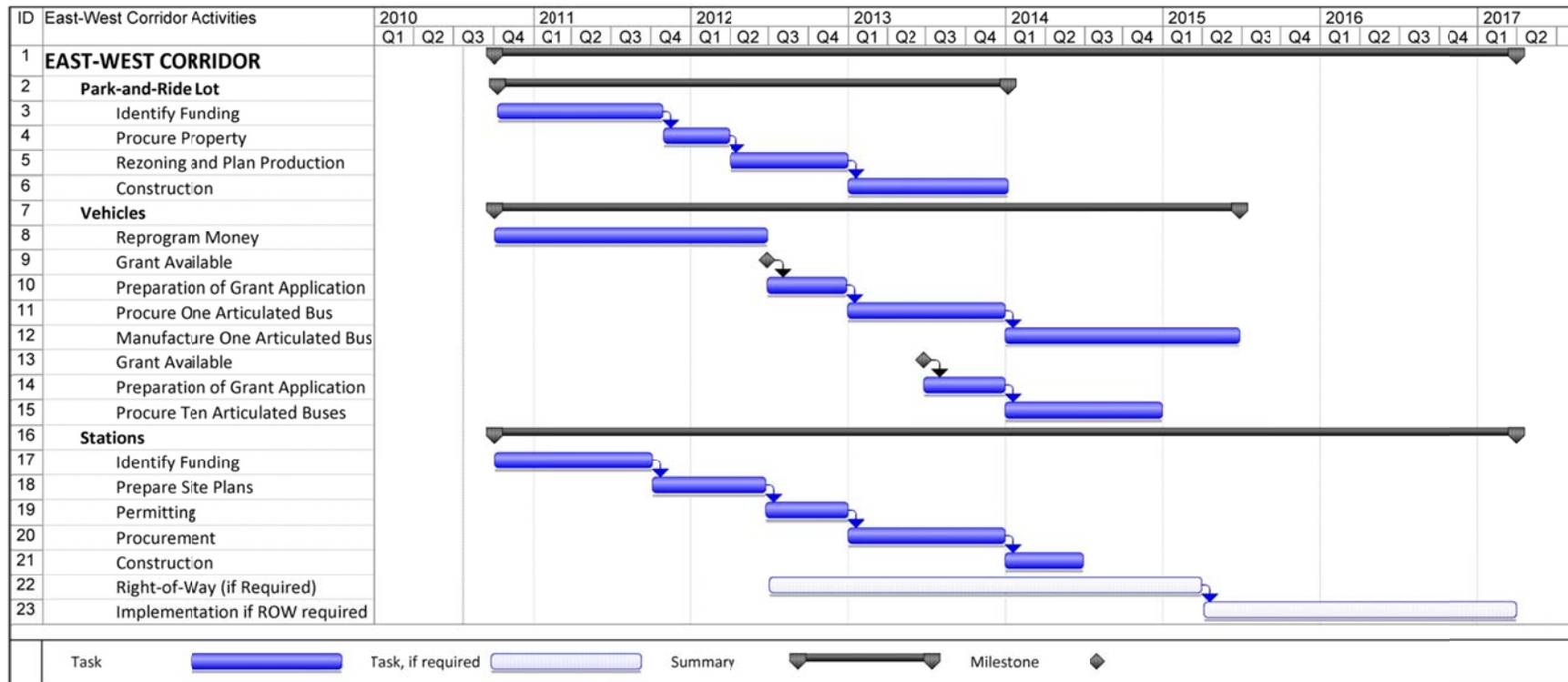
# Near Term Transportation Plan For Miami-Dade County

**TABLE 7A: SYSTEMWIDE IMPROVEMENTS AND NORTH CORRIDOR IMPLEMENTATION SCHEDULE**



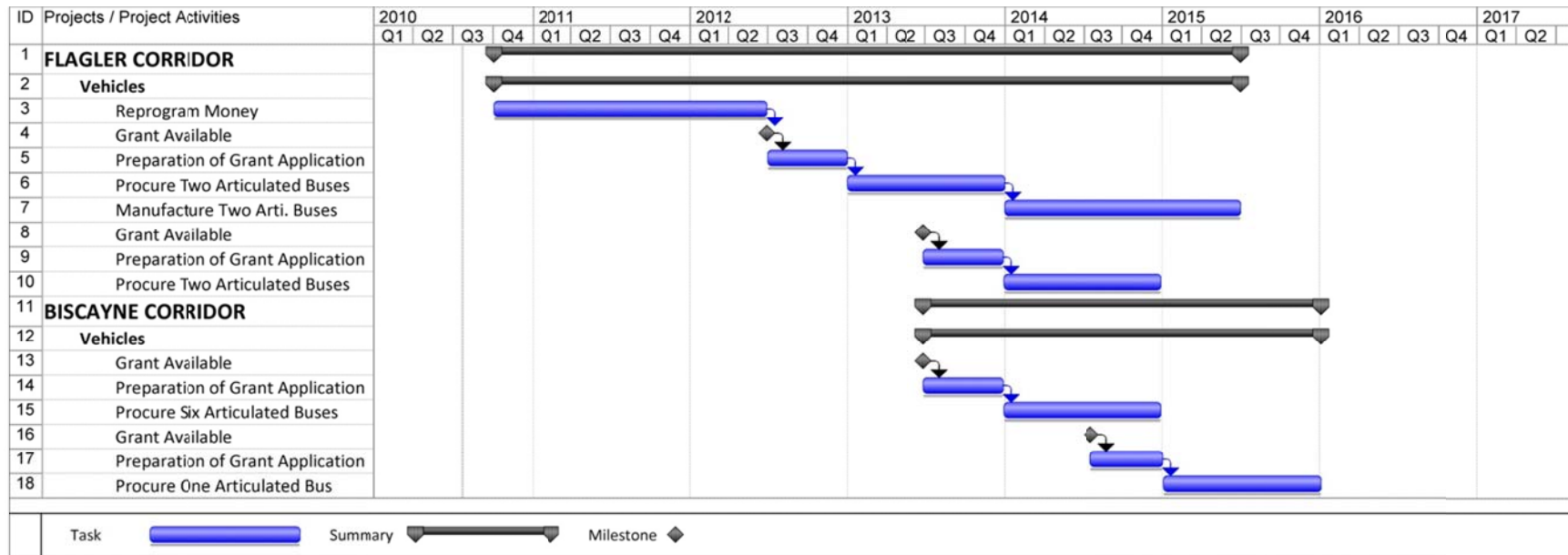
# Near Term Transportation Plan For Miami-Dade County

**TABLE 7B: EAST-WEST CORRIDOR IMPLEMENTATION SCHEDULE**



## Near Term Transportation Plan For Miami-Dade County

**TABLE 7C: FLAGLER CORRIDOR AND BISCAYNE CORRIDOR IMPLEMENTATION SCHEDULE**



# Near Term Transportation Plan For Miami-Dade County

---

## OUTLOOK BEYOND FIVE YEARS

Once the SR 836/826 interchange reconstruction is complete the managed lane system can be expanded. A combination of tolling, express lanes and transit services, similar to the operation on I-95 Express managed lanes represents a greener, cost effective strategy to meet the demand on the transportation system. At a relative minimal cost of implementation this strategy provides a feasible approach that has proven to yield the desired results of mobility improvements that will help transit become more sustainable

The optimal strategy for managed lanes is to convert existing lanes and shoulders , as was done with the I-95 Express project. Managed lanes in the 2035 LRTP comprise 99 center line miles of improvements. Approximately 27% of those improvements are identified as “Cost Feasible” in the LRTP, 61% are funded only for planning design and right-of-way. The remainder of the facilities are unfunded. The I-95 managed lane extension to the Broward County line is the only managed lane funded project. In the partially funded section of the LRTP are projects for managed lanes on SR 836, SR 112, and US 1.

FDOT is undertaking a PD&E study for the development of managed lanes on the Palmetto Expressway. This north-south corridor is an important link between the Kendall area and the MIC completing a grid of future managed lanes carrying express transit services.

MDX has initiated a PD&E study for the integration of a managed lane project along the South Dade Busway along US1. If the PD&E study finds that managed lanes are feasible and if the improvements are made to the Busway, it would be operated as a managed lane and the available capacity would be “sold” to auto drivers. The fees paid by private autos would be based upon the demand, in order to preserve free flow conditions. Buses that currently use the exclusive right-of-way would operate in mixed flow. Revenues from the tolls would first go to repay the bonds then secondly would go to pay for the operation of the facility. The level of revenues dedicated to transit would still need to be determined and the FTA, who paid for a portion of the Busway, will need to approve the planned project. FTA has stated that the approval of the project would be based upon the level of benefit provided to transit.

Figure 7 portrays the long-term vision for a system of managed lanes, and premium transit for Miami-Dade County.





